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Principles
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Secondary Education

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FIRST EDITION
TENTH IMPRESSION

McGRAW-HILL BOOK COMPANY, INC.
NEW YORK AND LONDON
1941

PRINCIPLES OF SECONDARY EDUCATION

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PREFACE

This volume is designed primarily as a textbook to be used in the courses designated as Principles of Secondary Education, The High School, Secondary Education, or the Secondary School. It is organized so as to provide for students beginning their professional work a comprehensive picture of the secondary school as it exists in the United States. In addition to the primary purpose of creating a book useful to teachers in training, the authors believe that active teachers and administrators can find in this volume materials by means of which they may review their ideas of educational practices and policies. Furthermore, we believe that they will find in this volume suggestions and ideas in the light of which they may evaluate and analyze their present practices and ideas about secondary education.

The authors have purposely refrained from being dogmatic and from passing judgment on practices old or new. The hope is that the reader, whether a student in college or an in-service teacher, will receive a fair picture of the present status of secondary education. From this, and by comparison with former practices in this country and current practices abroad, a serious student should be able to develop a fairly clear concept of what the secondary school is, what it is supposed to do, how it approaches its task, and what hope of success it may reasonably have.

An underlying philosophy of education is, at best, extremely intangible and, unfortunately, often built up in fragments which results in some surprising inconsistencies. In this volume the large facts and principles of secondary education have been treated in a way which is both logical and psychological. An attempt is made to answer such major questions as these: What is the secondary school and what is it trying to do? How is it organized so as to accomplish its purposes? How is the curriculum organized and what modifications in practices seem to be inevitable? What part does the individual teacher play in the business of secondary education? In what direction is secondary education going?

To attempt to answer all these questions with finality is not the purpose of the authors; and in fact, they are not greatly concerned with definite right answers, since concepts as to right answers tend to change considerably and in their opinion it would be a serious mistake for any student of education to set up right answers to educational questions, to be learned by others. The learning of answers to any questions without examination of details is likely to lead to acceptance of such answers without thought about them. It is hoped that through the use of this volume and related materials students will evolve a consistent point of view concerning secondary education, which will aid them in thinking about it and studying it. This volume, the authors believe, provides the frame of reference upon which students may build in order that they may develop criteria in the light of which current and future practices and proposals may be evaluated rationally. To facilitate this process, purely local materials and issues, which of necessity apply only to small groups or restricted localities, have been avoided except for purposes of illustration.

Readers of this volume will notice in it a departure from the traditional treatment of principles of secondary education. The historical treatment of secondary education, comparative education, and such topics as adolescent psychology and individual differences are not treated separately. We believe that it is more illuminating to combine these materials with other aspects of secondary education in order that their significance may be appreciated. To do this seems as obvious as to learn a scientific principle and its application together. The principle without the application is difficult to learn, and the application without the principle is likewise difficult or meaningless. Hence the authors have tried to show how differences, for example, must receive recognition through the curriculum.

The content of this work is based upon the opinions and experiences of leaders in secondary education secured from published sources, and on the authors' personal experiences as teachers in secondary schools and institutions of higher learning. The materials have been used for several years as a basis for courses in the principles of secondary education. Much of the content, while in manuscript form, was read by students who made valuable criticisms from their point of view with respect to the content and organization.

The authors wish to acknowledge their indebtedness to the several publishers who granted permission for quotations and to the students who read the manuscript.

RUDYARD K. BENT,
HENRY H. KRONENBERG,

UNIVERSITY OF ARKANSAS,
August, 1941.

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EDITOR'S INTRODUCTION

In the middle of the nineteenth century, the European secondary school had long been restricted to the upper economic and social levels. It was preparatory to the university merely because higher education, too, was a prerogative of the upper classes. Even when secondary schools had been originally established for service to poor children, as in numerous cases in England and France, they had now become institutions in which the holders of scholarships were almost invariably those members of the privileged classes who were only relatively more "needy" than other members of their own aristocratic and wealthy families.

The new nineteenth-century secondary school in the United States broke rather abruptly with this class tradition. By the end of the century, while the European *gymnasium*, *lycée*, *collège*, or "public school" continued to teach any boys from the ages of nine or ten to eighteen or twenty who were able to pay fees, the American high schools had developed a free system of public education between the eight-year elementary level and that of the four-year college. The European secondary school remained socially and economically snobbish, even when its products were most fervently mouthing the formulas of liberty, equality, and fraternity. The American secondary school struck out boldly on the course of becoming an instrument of democracy, even when that democracy was vaguely conceived and poorly practiced.

From this revolutionary beginning the secondary school of the United States has come a long way. In certain superficial respects, however, it has indeed come to seem more like its European contemporaries. In its junior high school, senior high school, and junior college divisions, it now covers the eight-year period from age twelve to age twenty. It is no longer primarily a link between elementary and higher education, moreover, for it serves many learners who will never attend universities, and it admits some pupils who have not completed elementary schooling.

In one respect, however, the American secondary school has been getting further away from the European secondary school every year of the last hundred. It stands unique among the secondary schools of the world in its persistent attempts to become a truly democratic institution. It is today the greatest, as it was for a long time the first, system of secondary education designed to serve a democracy whose members are determined that all the youth of the country shall be educated until they reach adulthood. No recital of the opinions of minorities in the United States who believe that reading, writing, and arithmetic to age twelve or fourteen are sufficient for children of the masses, no listing of statistics which reveal the inadequacy of secondary education in many parts of the country, no wailing over the gross inequalities in educational opportunity on the secondary as well as on the elementary and higher levels can change the simple fact that the people of the United States, in overwhelming majority, believe in secondary schooling for every young citizen of the Republic, without regard to wealth, color, or even intelligence quotient. The people of the United States are going to move forward on that belief, come the hell of depression or war, come the high water of peace or prosperity, and those who think it possible to stop this people on this road will attain disillusionment under the hob nails of destiny.

The present volume tells the dramatic story of how the citizens of this country have expanded and enriched the services of their secondary schools and how they are today attempting to improve and extend those services still further. It sketches the slow start of the United States secondary school from the base of the old-type Latin Grammar schools and academies, the rapid swing to the building of high schools on the foundation of the district elementary schools, and the almost incredible feat in the period 1880 to 1930 of doubling the secondary school enrollment every decade. It shows the distance between the American secondary school and those of Europe. It describes the purposes and outlines the problems of secondary education in the United States today. It gives a basis for the forward look which every member of a profession must have if he would not sink to the level of a rule-of-thumb operator of machines which he does not understand well enough to criticize.

This book makes it clear that the secondary schools of the United States still have a long way to go. In the next few decades these schools will require a quality of devoted service and a sweep of imaginative insight much greater than they received in the last hundred or even the last twenty years. Prospective members of the teaching profession who now contemplate work on the secondary level must recognize at the outset of their training that they will need a breadth and intensity of knowledge, skill, and vision inferior to those of no other profession and far superior to those of the average teacher in the secondary schools which they themselves attended.

The present volume gives to students who desire this quality of professional preparation a simple yet comprehensive statement of the principles of modern secondary education in the United States. The authors are to be congratulated on the unassuming and therefore all the more impressive scholarship which has made possible that simplicity and that comprehensiveness.

HAROLD BENJAMIN.

UNIVERSITY OF MARYLAND,
August, 1941.

PRINCIPLES OF SECONDARY EDUCATION

CHAPTER I

SECONDARY EDUCATION IN THE UNITED STATES

In September of 1940 about eight million boys and girls in the United States enrolled in and attended public and private secondary schools throughout the nation. According to the best predictions this figure will be over eight million in the near future. In the spring of 1941 over one million of these pupils graduated from high school. The number enrolled in the 25,467 public and 3,327 private secondary schools represents about 5 per cent of the entire population.[1] No other nation of the world sends such a vast army through its secondary schools. These figures reveal in a striking manner the magnitude of our secondary-school program and the great faith the American people have in secondary education for the masses. It has been said by Europeans that we are so education conscious that education is our national religion.

This situation reveals, in a general way, the progress made in attaining the educational goals which have been established with reference to secondary education:

1. To make secondary education available to every boy and girl in the United States regardless of social and economic status, race, nationality, political affiliation, or religious belief.
2. To make the high school a tuition-free public school, supported by taxes, and separated from religious organizations in administration and curriculum.
3. To provide curriculums which will be congruous with the needs, interests, and capacities of the boys and girls who attend the high school.

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[1] See Figs. 2 and 3. The enrollment figures include grades 9 through 12 only. If those in the seventh and eighth grades of junior high schools are added, the enrollment is near eight million. (Table 7.)

Only a democracy could have such goals. They represent educational ideals, the fulfillment of which should make the state a better place in which to live. An enormous financial outlay is required, to construct buildings, transport pupils, and to train and pay teachers, but the task, which would have been considered impossible a few decades ago, is gradually being accomplished. The goals have not been reached. As rapidly as they are approached they should be extended, otherwise there will be no progress. The extent to which these goals have been reached, the place and purpose of a secondary school in a democracy, and the difficulties and problems involved in making secondary education available for all American youth, are the matters receiving major emphasis in this volume.

It is the purpose of this chapter to present briefly the scope of the entire educational program in the United States with special consideration of the secondary school in order to show its relationship to the other educational divisions and agencies. Many of the topics discussed in this chapter will be treated in greater detail in later sections. The treatment given in this introduction is for the purpose of orientation in the study of this great American institution.

Divisions of Our Public School System.—The educational system in the United States is conveniently divided into three divisions: elementary, secondary, and higher. These three divisions enroll about one-third of the entire population, employ over a million teachers, and cost the nation over two billion dollars a year. For all general purposes the elementary school may be defined as including grades from 1 to 6 inclusive. The secondary school includes the grades from 7 through 14, and higher education all schooling beyond the secondary level. There are exceptions to this classification by grades. In those school systems organized on the 8-4 plan the seventh and eighth grades are included in the elementary division while grades 9 through 12 are considered as secondary. In recent years the junior college has been included in the secondary division although the same two years beyond the high school are not so classified if the work is pursued in a university or college. Thus it may be seen that the term "secondary education" is broader and more inclusive than the term "high school." The high school is only one of the educational institutions on the secondary level.

What Is Secondary Education?—Classifying the school system according to grades does not tell one what secondary education is.

The division by grades is convenient in referring to various levels of work but it indicates neither the subjects being pursued, the ages of the pupils, nor the aims and functions of the institution. In a final analysis any level of our educational ladder must be defined in terms of the legitimate aims and functions agreed upon for that division. The secondary school cannot be considered as a preparatory school for college for that is only one of its functions, nor is it sufficient to describe secondary education as any schooling received between the elementary school and college even though it does serve as a connecting link between the two.

Secondary education has been defined in terms of any schooling given at certain chronological ages.[1] Some say it includes the ages from 14 to 18, others from 12 to 20, while still others say it includes all schooling of adolescents. In the former definition there is no agreement as to what ages to include and the latter does not clearly define secondary education because adolescence is not a sharply divided period with fixed limits. It may be defined on the basis of the subjects taught. The elementary school gives instruction in the fundamentals and tools which are essential in solving everyday problems of life, while in secondary education one explores various fields of knowledge and acquires further tools for the solution of problems or as preparation for advanced learning. Higher education is thought of as giving advanced technological and professional training, or advanced and specialized study in the fields of science, literature, and the arts. In spite of the disagreement in attempting to define secondary education, Douglass gives the following definition in which there is considerable agreement:

> Secondary education is that period in which the emphasis is shifted from the study of the simpler tools of learning and literacy to the use of these tools in acquiring knowledge, interests, skills, and appreciations, in the various major fields of human life and thought.[2]

From these definitions it will be seen that it is impossible to define definitely secondary education in terms of age, grade, or even the subjects being taught. The extremes involve no difficulty. There is no doubt that the third grade, for example, is not in the secondary school, and that the eleventh grade is not in the elementary school. It is those transition grades near the end of one division and the beginning of the next that are in dispute. Glass[1] describes the junior high school as being neither wholly elementary nor wholly secondary at any point in its three years. It is a composite of both. The junior high school closes the elementary school, coordinates the school system, and starts the secondary school. The junior college is likewise a composite of both secondary and higher education.

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[1] See Harl R. Douglass, "Secondary Education for Youth in Modern America," p. 2, American Council on Education, Washington, D.C., 1937.

[2] *Ibid*, pp. 4–5.

For convenience in this present treatment of the subject, secondary education will be considered as including the junior and senior high schools, the regular high school, and the junior college, or grades 7 through 14. In Fig. 1 the relation between the secondary school and the other educational divisions is illustrated diagramatically.

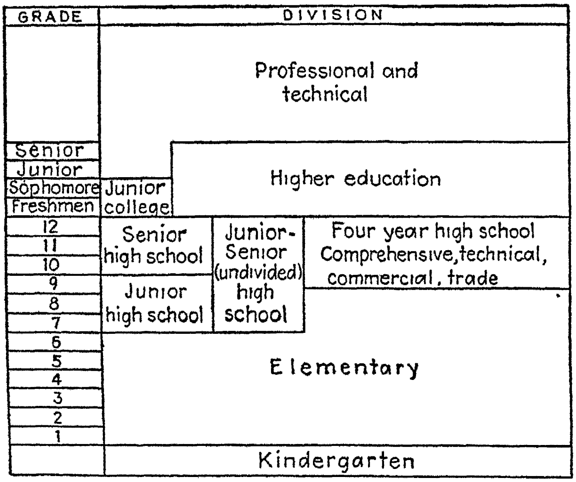

FIG. 1.—The secondary-school system in the United States in relation to elementary and higher education.

Faith of the American People in Secondary Education.—The rapid growth of the secondary school in the past few decades and the unparalleled enrollment at the present time reveal America's faith in the institution. From 1890 to 1938 the public-high-school enrollment increased from 202,963 to 6,259,372 and the number of schools from 2,526 to 25,467 in 1938. (See Figs. 2 and 3.)

This is an indication of the extent to which the masses of people are eager to raise their standard of living, to increase their cultural level, and to satisfy their desire for knowledge. It is quite common to hear the expression "the strength of a democracy lies in the number of educated citizenry." Regardless of the extent to which this claim is advocated by educational leaders the secondary school would not long be supported at public expense if those who attended did not maintain a faith that the experience was profitable. Evidence of this is found in the fact that practically all classes of people regard the secondary school and the right to free public education as one of their heritages.

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[1] James M. Glass, Mission of the Junior High School in Articulation and Guided Exploration, *School Life*, **12** (February, 1927), pp. 112–115.

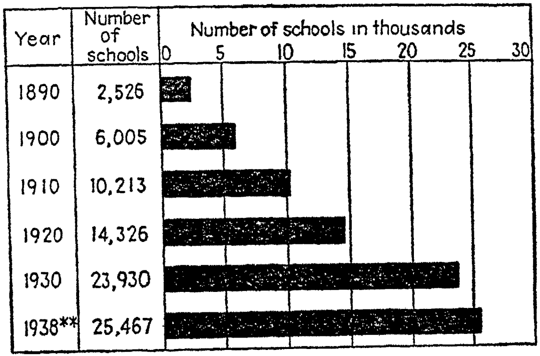

FIG. 2.—Growth of the public high school in the United States from 1890 to 1938. (*Biennial Survey of Education in the United States*, 1934–36, *U.S. Office of Education Bulletin* 2, 1937, p. 4.)

** *Statistics of Public High Schools*, 1937–38, *U.S. Office of Education Bulletin* 2, 1940, p. 1.

The following are ways in which the people have shown their faith in secondary education:

1. Early establishment of schools. After the colonists arrived in this country and had established homes and churches, they soon set up elementary and secondary schools.
2. Enacting school laws. Hundreds of school laws have been enacted making school establishment, support, and attendance mandatory. Although the compulsory ages for many years included elementary pupils only, the present trend is toward raising the legal leaving age to include students of secondary age.
3. Increase of school expenditure. For many years school expenditures have shown an increase, resulting in increased and improved educational facilities.
4. Increase in school terms. The average school term for both elementary and secondary schools has increased from 132 days in 1870 to 173 days in 1936. The secondary school alone has increased from 170 days in 1918 to 177 in 1933–34.

5. Private interest. Private interest has been shown by the number of outstanding leaders who have championed the cause of education and by many grants and gifts to the schools.

6. Statements of leaders regarding education. Statements from leaders such as Jefferson, Madison, Lincoln, and Roosevelt all affirm the value of public education.

7. Statements of organizations regarding the value of education. Organizations such as the National Congress of Parents and Teachers, the American Legion, churches, patriotic organizations, and labor groups have repeatedly affirmed the value of education. The first two organizations sponsor National Education Week.

8. Statements of law on the importance of education. Notable examples of these are to be found in Judge Cooley's decision in the Kalamazoo case, and in the Massachusetts school law of 1780.

Cubberley has summarized our educational progress by describing it as a series of battles dealing with the following issues: (1) compulsory education, (2) tax-supported schools, (3) state control and supervision, (4) the elimination of sectarianism, (5) the extension of the school system, (6) the establishment of the high school, (7) state aid to support elementary and secondary education, and (8) federal aid for the support of public education.[1] Many of these are still being fought, especially that for federal aid which will help in equalizing educational costs and opportunities.

Counts points out the fact that the American people identify education with the work of the school, and "as a consequence the faith in education becomes a faith in the school, and the school is looked upon as a worker of miracles. *In fact, the school is the American road to culture.*"[2]

Types of Secondary Schools.—It has been said that we have a national school system but no national school. The truth of this statement is evident when one examines the many types of schools found in the United States. The various schools may be considered according to organization, curriculum, control, and support.

According to organization the predominating type is that commonly referred to as the regular high school or the 8-4 type, that is, eight years of elementary and four years of secondary education. This division included 61.3 per cent of all high schools (Table 1), and enrolled 43.5 per cent of all public-school pupils in 1938. In some states of the North (Maine and Massachusetts) the elementary division of some schools includes nine years while in eight states of the South many schools have only seven years in the elementary division. These states are Alabama, Georgia, Lousiana, North and South Carolina, Texas, Virginia, and Maryland.[1] Kansas City, Mo., also has a seven-year elementary school.

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[1] Elwood P. Cubberley, "Public Education in the United States," Chaps. V, VI, and VII, Houghton Mifflin Company, Boston, 1934.

[2] George S. Counts, "The American Road to Culture," p. 17, The John-Day Company, New York, 1930.

TABLE 1

NUMBER OF HIGH SCHOOLS OF VARIOUS TYPES IN THE UNITED STATES AND THE PERCENTAGE OF PUPILS ENROLLED IN EACH TYPE, 1938*

Type of school	Number of schools	Per cent of schools	Per cent of pupils enrolled
Junior high schools	2,372	9.6	19.0
Senior high schools	959	3.9	13.1
Undivided, junior-senior	6,203	25.2	24.4
Total reorganized	9,534	38.7	56.5
Regular high schools	15,056	61.3	43.5
Other types	877		
Total public schools	25,467	100.0	100.0
Private high schools	3,327		
Total public and private	28,794		

* Biennial Survey of Education, 1934–36, *U.S. Office of Education Bulletin* 2, 1937, Chap. I, p. 19, and Statistics of Public High Schools, 1937–38, *U.S. Office of Education Bulletin* 2, 1940, Chap. V, pp. 1, 9, 34, 35.

The next most popular types are those known as the 6-3-3 and 6-6, commonly referred to as reorganized schools. In 1938, 38.7 per cent of all public high schools were reorganized, but they enrolled 56.5 per cent of all pupils. In the former the first six grades are in the elementary division, the next three are organized separately as junior high schools, and the last three as senior high schools, while those organized as undivided junior-senior high schools are described as belonging to the 6-6 plan. Besides these divisions which include the majority or all reorganized schools, there are several combinations as the 6-2-4 and those including the junior college as the 6-6-2 and the 6-4-4 plans. The latter is being advocated by many educators as ideal for a national system. Pasadena, Calif., has broken with tradition and has established an eight-year secondary school beginning with the seventh and terminating with the fourteenth grade and organized in two four-year units. The lower unit, according to John A. Sexson, is not a typical junior high school, nor the upper unit a typical junior college.[1]

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[1] Biennial Survey of Education, 1932–34, *U.S. Office of Education Bulletin* 2, 1935, Chap. V, pp. 34–35.

Types of schools according to the curriculum include the comprehensive, vocational, trade, commercial, and technical high schools. The latter types are designed for those who desire more vocational training than is commonly given in the regular public schools. The comprehensive high school which includes a wide variety of subjects, and general, classical, vocational, and college preparatory courses is the predominating type in the United States. It is one of the democratic features of our system that no sharp separation is made between vocational and cultural education.

Whether a school is public or private is determined by the nature of the control and support. Those schools controlled and supported by religious denominations, by institutions, or by private organizations, and which charge a tuition fee are known as private schools as contrasted with those which are supported and controlled by the public. Over half, or 2,113, of the 3,327 private schools in the United States are controlled and supported by religious denominations. Of the denominational schools 65 per cent are Roman Catholic.[2] Private schools of all types enroll about 387,309 pupils or 6½ per cent of the total secondary school population.[2]

There are a few private schools established as a business enterprise which are supported by fees. Others are direct descendants of the Latin grammar school, being over 100 years old. Many universities maintain high schools as training schools for prospective teachers. These may be considered as semipublic in that they usually charge an enrollment fee, but have the major part of the expense borne by the state, and may or may not limit their enrollment by certain selective techniques. Some states, as Arkansas, Connecticut, Minnesota, New York, and Mississippi, maintain separate state-supported secondary schools of a vocational type, especially agricultural.[3]

Although the private schools do not deviate markedly from the public schools in aims and functions, they are relatively free from state supervision in formulating their own courses of study. They are supervised and inspected only for the purpose of being accredited for transfer of students to other high schools or to institutions of higher learning.

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[1] John A. Sexson, A New Type of Secondary School, *Bulletin of the Department of Secondary School Principals*, **22** (February, 1938), pp. 1–11.

[2] Biennial Survey of Education, 1934–36, *U.S. Office of Education Bulletin* 2, 1937, Chap. I, p. 19.

[3] Fred Engelhardt and A. V. Overn, "Secondary Education, Principles and Practices," p. 106, D. Appleton-Century Company, Inc., New York, 1937.

The Junior College.—There is some disagreement among educators and accrediting associations as to the place and functions of the junior college in the educational system. However, state laws governing the establishment of public junior colleges generally consider them an upward extension of, and a part of the secondary-school system.[1] The most popular plans which include a junior college as a part of the secondary-school system are the 6-3-3-2 plan and the 8-4-2 plan, that is, reorganized and regular plans which have been described earlier with two years of additional work added (Table 2). The four-year junior colleges are a part of the 6-4-4 plan. The majority are housed on the same site as the high school and usually in the same building.

TABLE 2

TYPES OF JUNIOR COLLEGE ACCORDING TO YEARS INCLUDED*

Years Included	Number
Five	1
Four	41
Three	6
Two	561
One	1
Total	610

* Walter Crosby Eells, Junior College Growth, *The Junior College Journal*, 11 (February, 1941), pp. 336–340.

The first junior college was established in 1898 in Decatur, Tex.—a private school under denominational control. The first public school of this type was established at Joliet, Ill., in 1902.[2] Since that time the junior-college movement has slowly spread from West to East until in 1941 there were 610 schools enrolling 236,162 students (Table 24, Chap. VI).

The school is still in the experimental stage. It has elements of both secondary and higher education. Like the junior high school, the junior college should serve as a transitional and integrating unit for articulating the work of secondary and higher education and offer terminal education for those not destined to pursue a four-year college curriculum.

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[1] Walter J. Greenleaf, Junior Colleges, *U.S. Office of Education Bulletin* 3, 1936, pp. 3–9.

[2] *Ibid.*, p. 43.

DEMOCRATIC FEATURES OF THE HIGH SCHOOL

The high school is truly an American contribution to the world. It has been called "the great American experiment" because it was not established on any precedent and is in a period of transition and unrest. There is no other institution like it. It is the first experiment in undertaking the task of providing an education for the majority of the youth of America, at public expense in a single institution.[1] It is untried and untested in that there is little tangible evidence that we are justified in extending secondary education to the masses at such an enormous expense. The secondary program alone cost $763,201,566 in 1939 and employed 267,584 teachers in 25,467 public schools.[2] There are many who believe that the outcomes achieved are not commensurate with the expenditure and hold to the belief that secondary education should be provided only for a limited number of select pupils. The elementary division has been firmly established as an institution which should serve all the people. The secondary school, although not wholly on trial, has yet to convince many that it is a school which should be supported at public expense and admit all who wish to attend.

The high school is unique in that it is a tuition-free school supported by the public, and is open to all regardless of socio-economic status, nationality, race, creed, or sex. Although the majority of all high schools are coeducational, there are a few for boys only or girls only located in various cities of the nation. Our school system has attracted the attention of educators in Europe who criticize us, saying that we lower our standards when we extend secondary education to the masses in order that less capable pupils may pass through, and that we place too little emphasis on scholarship. This tendency is often called "soft pedagogy." There is an element of truth in the criticism but it must be recalled that the primary aim of our secondary schools is citizenship and social efficiency while that of Europe is erudition. Americans do not want their children excluded because they receive low ratings in scholarship. The aims of the American secondary school are broad, general, and flexible. Being a new institution, established in a new country, it is not dominated by tradition and conservatism as are the secondary schools in some countries. The curriculum is broad. The Office of Education has reported 250 different subjects offered in all secondary schools of the United States designed to give a general training to all classes of people.[1] Although there is a recent tendency to place greater stress on vocational education than was the case in the past, the general aim of social efficiency is still paramount.

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[1] I. L. Kandel, "History of Secondary Education," p. 496, Houghton Mifflin Company, Boston, 1930.

[2] Partly estimated. "Statistical Summaries," Education in the United States, *U.S. Office of Education Bulletin* 3, 1939.

Other democratic features which are unique to the American secondary school as shown in Table 3 are:

1. The school system of the United States has less centralization of authority and control and more local initiative than school systems of other countries.
2. Pupils are admitted to the secondary school on the basis of the completion of the elementary school without any impediments such as examinations, high class standing, or social position.
3. Each division is sequentially related to the others. Gradually the gaps between the divisions are being closed so that we will eventually have an educational ladder with changes from any one grade to the next at one stage of progress no different or greater than that at another. Likewise, marked changes in methods of instruction, in discipline, and in the curriculum are gradually being eliminated. This has been accomplished to such an extent that in few educational systems outside of the United States is the elementary division so sequentially related to the secondary school.
4. The typical high school in the United States is the comprehensive school. This is in sharp contrast to those of Germany which have a parallel system separating the various types of courses, such as the general, cultural, classical, and vocational courses. The American system houses the various courses together, makes transfer from one to the other easy, and offers a large variety of elective courses. Exceptions to this are found in urban centers where separate vocational, trade, and commercial schools have been established in addition to the comprehensive type, and in rural schools which are so small that they are unable to offer more than the required number of units for graduation and college entrance.
5. More activities are to be found in the American schools than in those of any nation in the world. They have found a definite place in the curriculum and are one of the outstanding characteristics of our system.[2]

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[1] Biennial Survey of Education, 1928–30, *U.S. Office of Education Bulletin* 16, 1931, p. 963.

[2] Thomas H. Briggs, "Secondary Education," pp. 55–57, The Macmillan Company, New York, 1935.

6. The public high school is independent of all religious groups, and does not teach the doctrines of any creed, religion, class, or political party.

Growth of Democratic Features.—The immediate ancestor of the American high school was the academy, which was itself preceded by the Latin grammar school. Each of these schools was established to meet the needs of the times, and each, after serving its purpose, declined in favor of a more democratic institution. Changes occurred in all fields of human activity, but the Latin grammar school and the academy did not keep pace with changing society and as a result the high school was established to take their places.

It must not be assumed that the Latin grammar school and academy never met the needs of their times, for they provided secondary education for a small group while the masses were evolving an educational philosophy. They were transition schools. Their faults were that their curriculums became outworn, and the basic philosophy on which they were established remained constant while that of the people developed. Furthermore they frequently were supported by tuition fees. Schools reflect the basic social and political philosophy of a people, and are instruments of a people for inculcating these established principles. Any school that is to live through the ages and continue to render a service to society must have a dynamic rather than a stagnant curriculum and keep pace with educational and social theory.

The settlers in America were familiar with the traditional secondary schools of Europe, and many had attended grammar schools. Although grammar schools were being critized for their formalities, nevertheless they were introduced in America. At that time Latin was not used in Protestant services, the Vulgate Bible had been dethroned, and English theology was flowing in the channel of the mother tongue. Nevertheless, the notion that all ministers should know Latin had still some centuries of tough life in it.[1]

The first attempt to establish a Latin grammar school was made in Charles City in Anglican, Va., in 1621 by private endeavor and private resources. It was frustrated the following year by Indian massacres. The first permanent school to be established was in Boston in 1635, and it was known by such names as *free school*, *Latin school*, or *Latin grammar school*.

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[1] Ellwood P. Cubberley, "The History of Education," p. 362, Houghton Mifflin Company, Boston, 1920.

We are indebted to the Latin grammar school for keeping learning alive and continuing the growth of the secondary school. It laid the foundation for a newer and more progressive school. It served its purpose for the classes while the masses were evolving a philosophy of and a desire for secondary education. New conceptions of education were being felt in America and Latin schools stimulated rather than retarded the growth of a more democratic school, the academy. Other factors causing an educational unrest and the decline of the Latin grammar school were:

1. The population increased.
2. Westward movement began.
3. Agriculture, industry, and commerce expanded.
4. Social and religious uniformity disappeared.
5. The realistic movement began.

The factors causing the decline of the Latin grammar school paralleled those giving rise to the academy. Of many causes for the rise of the academy in America, the chief ones were:

1. The common people desired and needed more than elementary education.
2. The commercial class desired a practical education.
3. The hardships of frontier life and a literary cultural education seemed inconsistent.
4. People began to demand educational facilities available near their homes.

Contrasted with the Latin grammar school, the academies were popular, but even they were unpopular in many respects. They were looked upon as being exclusive, snobbish, and undemocratic, since they were not accessible to all who wished to attend, charged a tuition, and were not all publicly controlled. In many sections, especially in Massachusetts, the idea of education being privately controlled was not popular. It did not meet the real needs of the people, nor was it in keeping with a growing idea that schools should be provided for all without direct cost to the individual. The academy did not fulfill this ideal. It was public in that they were usually incorporated under state laws, but it was considered private because it charged fees, and was administered through private or church organizations.

With the rise of the public high school some of the academies disappeared, others became high schools, or normal schools, and others evolved into colleges and universities, while still others are in existence today. Those still operating have as their main purpose that of preparation for college.

The academy was well adapted to the needs of its time. It was a transition school in the advance toward a system of free public education which was being developed. It met for a time the liberal demands of those who were opposed to the Latin grammar school, and it was a foundation for achieving the next institution—the high school. The contributions of the academy were in liberalizing secondary education, bringing educational facilities within the reach of all, meeting the needs of those desiring a practical training, functioning as a college preparatory institution, providing secondary education for girls, and providing some teacher education.

The Education of Girls.—During the Colonial period little provision was made for the education of girls beyond that of an elementary education in reading, writing, and some arithmetic. It was believed that a girl's place was in the home and that her brains were too delicate for higher education. Girls attended the "dame schools," the elementary schools after they were developed, and the private schools. In some of the Latin grammar schools, girls were given instruction in special classes after the boys were dismissed. They also attended writing classes from three to five o'clock, two days a week. The girls paid fees for these extra classes. The effect of this exclusion is evidenced by the fact that for a great part of the eighteenth century not more than 25 per cent of the women who had occasion to sign legal documents were able to do so.[1]

The academy was the first secondary school to provide for girls. Timothy Dwight, later president of Yale, opened an academy for girls at Greenfield Hill (Conn.) in 1785, and in 1790 a school for girls was opened at New Haven by William Woodbridge. Coeducational academies were established in Leicester in 1784 and Westford in 1793.[1]

For 25 years after the Revolutionary War the type of education given girls was criticized on the grounds that it was too much of the "finishing-school" type and that there were "showy" accomplishments rather than true learning. The schools stressed painting on velvet, wax-flower work, and types of ornamental work, but did not stress academic subjects.

Mrs. Emma Willard, who championed the cause of education for girls and who criticized the former type, opened the Troy

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[1] Kandel, *op. cit.*, p. 515.

Female Seminary in New York in 1821 with private and public assistance. She introduced subjects in principles of student government, and trained in morals and religion, literary, domestic, and ornamental subjects as well as courses for teaching. Catherine Beecher opened a school in Hartford in 1822, and Misses Z. P. Grant and Mary Lyon became associated with the establishment of Ipswich Female Seminary in 1828.[1]

The first female high school was organized in New York by the influence of John Griscom in 1826, although it was not until 1840 that the high school became coeducational. This principle was adopted more for the sake of economy than because of any educational theory. Today, over 50 per cent of the high-school population are girls, while most of the universities are coeducational. In the latter, the ratio of men to women is about two to one.

Comparison of the High School with Secondary Schools of Europe with Respect to Democratic Features.—A large number of the democratic features of the high school are not found in secondary schools of Europe. As shown in Table 3, their aims are more for the elite, they do not serve the masses of the people, they do not practice coeducation save in a few places for economy, and then boys never attend classes with girls. Their curriculums are classical, academic, and literary, and although there are a number of free places for capable boys who cannot afford to pay the fees, a number of countries still charge tuition.

In Europe, secondary education is given a narrow meaning, and is limited to include only that kind of training given to young people to prepare them for advanced study in some institution of higher learning. The schools are usually limited to a few select pupils and those giving training to the masses above the elementary school are not usually considered secondary. Examples of the strictly secondary schools are the *Gymnasium* of Germany, Austria, Hungary, Poland, and Denmark; the *lycée* and *college* of France; the public schools of England; the *liceo-ginnasia* of Italy; and the *instituto* of Spain. To care for a greater number of pupils not destined to pursue higher education, and give a more flexible and practical curriculum for those of ages 11 to 13 or 14, "middle" schools were established. These are called "central schools" in England and *écoles primaires supérieures* in France. Many of these are, in our broader meaning of the term, secondary in everything save the name.

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[1] *Ibid.*, p. 517.

TABLE 3

COMPARISON OF THE TYPICAL SECONDARY SCHOOLS OF EUROPE AND THE UNITED STATES

Feature	United States	Europe
Educational goals	1. Secondary education for the masses 2. Free to all who wish to attend regardless of ability or class 3. Complete separation of church and state	1. Secondary education for the classes 2. Tuition fees and free places for those of ability 3. Religion and denominationalism in the public school
General aims	1 Citizenship, adjustment to environment 2 Vocational, practical 3 Build a new social order, or understand the existing social order	1. Erudition, general culture, character, discipline, service to the state, and mental training 2. Instruments of the state to perpetuate a political doctrine or creed
System of control	1. A state function with local control 2. Little federal control; not centralized	1. Highly centralized with a minimum of local control
Curriculum	1. Broad, flexible, general 2. Multiple curricula designed for all classes and levels of ability 3. General, cultural, and vocational subjects in the same curriculum	1. Narrow, classical, academic, and literary 2. Single curriculum with some choice of subjects 3. Vocational subjects taught in separate schools
Popularity and population	1. Enroll about 70 per cent of the potential school population 2. Increasing in popularity 3. Representative of total population. All classes attending with little selectivity 4. Entrance on completion of elementary school	1. Limited popularity. Enrolls only small per cent of pupils of secondary school ages 2. Most are increasing in popularity 3. Highly selective Students must have money or ability to attend secondary schools 4. Entrance based on examinations after elementary school
Support	1. Free to all 2. Local taxes plus state aid; little federal aid	1. Tuition (removed in France and Russia) 2. Government aid
Coeducation	1. Coeducation system 2. Separate schools are few 3. Sexes about equal in number	1. Separate schools for boys and girls 2. Coeducational schools few 3. Schools mostly for boys
Teachers	1. Majority have college degrees. About 13 per cent have postgraduate work 2. Women in majority 3. Not highly paid. Variations 4. Large turnover. Short tenure	1. Majority have training beyond college 2. Majority are men 3. Variations, but better paid than in the United States 4. Longer tenure than in the United States
Length of term	1. Average about 171 days 2. Range from 160 to 200 days 3. Majority 180	1. Usually 200 days
Compulsory education	1. Varies among states, majority to age of 16	1. Usually to 13 to 15
Scholarship	1. Not stressed as in Europe 2. Not much elimination because of failure	1. Erudition stressed 2. Thorough training, high selection, and elimination by rigid examinations

In recent years several European countries have changed their educational systems. Some of the principal ones are Austria, Belgium, Czechoslovakia, Denmark, England, France, Germany, Italy, Soviet Union, Norway, and Sweden. Many of these changes were coincident with revolution and the schools were changed to inculcate the principles of the group coming into power, as in Soviet Russia, Germany, and Italy. Others were due to carefully planned changes, made after periods of study and deliberation, as was the case in England, Wales, and France.

The direction of education in the majority of these countries is overwhelmingly nationalistic. Some of the evidences of this are seen in the following:

1. The swing from private to public education, which is a result of government action and to the difficulties of many private schools in financing themselves. Many remain open by receiving government grants and are thus compelled to submit to their regulations. Those remaining are being brought more and more under governmental control.
2. The administration and support of education is being placed increasingly more in the hands of the national officials, and less with the local authorities. Part of this shift is due to the inability of the local communities to finance education without aid.
3. The control of education has been unified, that is, placed under the control of one minister who correlates all educational units of the nation.
4. School systems are being further unified, or organized, on the principle of equal educational opportunities for equal intelligence without regard to the social, class, or economic status of the students.[1]

The Influence of American Educational Principles on Europe.—From a recent study of the trends in secondary education in Europe, a tendency is noted to reorganize the schools on more democratic principles than in the past. Progress has been slow, for the countries are strongly committed to the idea that secondary education is a class privilege, and that the curriculum should be classical. Gradually, opportunities are being granted to capable students to secure a secondary education by the reduction or elimination of fees; greater articulation between elementary and secondary schools is being produced; the elementary preparatory schools for the classes are being eliminated; and the curriculums are becoming more modern.

Some of the postwar movements brought about by the changed political situation are summarized by Abel, in "Major Trends in World Education":[2]

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[1] James F. Abel, A Survey of a Decennium of Education in Countries Other Than the United States, *U.S. Office of Education Bulletin* 2, 1937, pp. 5–7.

[2] James F. Abel, Major Trends of Education in Other Countries, *U.S. Office of Education Bulletin* 13, 1928, p. 33.

1. To make it more democratic in the sense of providing ways for capable children of poor parents to go through the secondary schools.
2. To delay as much as possible the child's decision of his later career.
3. To make the transition from one type of parallel course to another much easier.
4. To incorporate the technical and vocational schools more closely into the general school system.
5. To raise the age of regular compulsory school attendance by one or two years and require some kind of continuation schooling until about the age of 18.

Education is becoming broader and is assuming some of the features of the universality desired for primary education.

A few specific examples will reveal more of the differences between the schools of Europe and those of the United States.

In France coeducation is not practiced in the secondary schools, separate schools being maintained for each sex. As contrasted with the United States, the proportion of girls to boys in all secondary schools is about 1 to 2. The secondary schools of France are selective. Only about one-fifth or one-sixth of those who pass the *certificat d' études primaires* will proceed to a higher primary school, practical commercial or industrial schools, or to a *lycee* or *collège*, the main secondary schools of France. The total enrollment in public lycées and colleges was still under 180,000 in 1939.[1]

The schools of France are highly centralized in respect to administration and control. They are administered through a central office headed by the Minister of Public Instruction who is assisted by his deputies.

The Ecole Unique, or a common school system, was proposed during the First World War as a complete reorganization of the French school system. It proposed a system to promote the interests of the nation as a whole by eliminating class distinctions, providing equality of opportunity for all, and utilizing all resources of talent and ability wherever found. This included a common elementary school and secondary education without fees for poor boys with aptitude.

Many of these changes have been realized. A common primary education has been adopted for all elementary school pupils up to between the ages of 11 to 12. The abolition of fees was accomplished in 1933, and a common scholarship examination for all those planning to enter a school at the second level, that is, a higher primary school, a technical school, or a *lycée* or *collège*.[1,2]

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[1] Kandel, *op. cit.*, pp. 476–482.

Secondary schools of Germany reorganized by Hitler in 1938 fixed the tuition fee at 240 marks a year with free places granted to highly gifted children of excellent character, achievement, and general aptitude. Coeducation is not practiced, separate schools being maintained for boys and girls.[3]

As contrasted with former methods of selecting students on the basis of ability, students under Nazi Germany are selected on the basis of records of patriotic participation, physical superiority, and racial purity as well as intelligence. The mortality is exceedingly high, since the student must master the academic subjects in the strict curriculum or be dismissed. Little choice is given in the selection of subjects. If a pupil fails in two or more subjects, he is not promoted and must repeat the entire year. If he fails again he is eliminated. Under the reform of 1936, the final examination has been made oral rather than written, and the course has been made harder since the thirteenth year has been eliminated, for, by doing so, the work of that year in German, history, geography, and biology, must be covered in the twelfth grade. In the final oral examination, the student is questioned by all teachers on any material covered in the entire course.[4]

In 1929, only 8 per cent of the potential secondary educational population of Germany attended secondary schools as contrasted with about 70 per cent in the United States. From 1933 to 1935 there was a drop of 33 per cent in this number. In 1936, only 15,000 students were in secondary schools. The German university and technical school enrollments have been reduced 38 per cent. A decree of 1933 reduced the total university enrollment to a maximum of 15,000 students, who are selected on the basis of physical fitness, character, national reliability, plus tests in which devotion to the National-Socialists' principles is decisive.[5]

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[1] P. W. L. Cox, Education in Europe, *National Education Association Journal*, **25** (April, 1936), pp. 115–116.

[2] H. Nabholz, Reform of the Secondary Schools of Germany and France, *School and Society*, **47** (January 8, 1938), p. 56.

[3] Michael Demiashkevich, More on the Reform of Secondary Education in Germany, *Educational Forum*, **3** (November, 1938), pp. 81–95.

[4] H. Nabholz, Selectivity in German Secondary Schools, *School and Society*, **45** (July, 1935), pp. 66–68.

[5] M. K. Archer, A Comparison of Educational Ideals in Germany and the United States, *The School Review*, **45** (May, 1937), p. 377.

The English believe, as we do in the United States, that children should have all the secondary education they can receive beneficially, although the United States is still far in advance in this respect.[1] In 1937, the total secondary-school enrollment of England and Wales was 466,245 in schools on the grant list, and 73,421 in schools not on the list.[2] The schools are still highly selective. In 1933 only 15 per cent of the children in elementary schools were admitted to secondary schools. The great majority of youth receive no schooling beyond the elementary school. In 1935, only 17.5 per cent of all youth remained in school beyond the age of 14½, and only 5 per cent remained beyond the age of 15.[3] Coeducation is practiced only for economy.

There are many unique features of the schools of Russia which make them outstanding when contrasted with the schools of Germany, France, and England, and which makes them nearer like those in the United States than those in all Europe.

1. There are no examinations for admission to one grade or promotion from one year to the next. Success is based on the quality of the work. Recently, competitive examinations have been introduced to obtain fit students for the universities and institutions beyond the secondary school.
2. Coeducation is universal.
3. Student government is universal. In this manner collectivism is taught. Youth organizations have been established in and out of the school for the same aim. However, in 1934, this was limited strictly to student activities.
4. There is a very close relation between the schools and community life.
5. All pupils receive a medical examination four times a year.
6. There is no class distinction in the schools. They are open to all and tuition is free.
7. Progressive and modern methods are employed in the instruction, although not to the extent they formerly were.
8. Although the schools are instruments of the state for creating a new culture, proletarian in character, adequate local autonomy is permitted.
9. As in the United States, vocational and cultural education are not separated.

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[1] Harry K. Newburn, Secondary Education in the United States and England, *School Review,* **47** (December, 1939), pp. 742–745.

[2] I. L. Kandel, Education Abroad: Secondary Education, *The Educational Forum,* **3** (May, 1939), p. 482.

[3] Esther Crane, England's Education for the Adolescent, *Journal of the American Association of University Women,* **29** (June, 1936), p. 213.

10. In Russia education is considered a state function, and not an affair of the family.

11. The schools are popular and the enrollments are increasing rapidly. From 1927–28 the enrollment in intermediate and secondary schools increased from 1,409,000 to over 17 million enrolled in the whole of Russia.[1]

SIZES OF THE VARIOUS HIGH SCHOOLS

The American people have always wanted their schools near their homes. They have wanted them to be within easy traveling distance, and have taken a local pride in having the school in one of the most conspicuous places in the community, whether it was the best place for the school to be located or not. Local control and local initiative have always been desired and a school too far from home will not permit either. When problems in the school have arisen the parents have always considered it a right and duty to give them personal attention. Further it is not possible to transport pupils too far from home, nor do parents wish to board their children away from home. These are a few of the reasons the majority of all high schools are small, 65.6 per cent of them enrolling fewer than 200 pupils and 39.5 per cent fewer than 100 pupils (Table 4).

TABLE 4

SIZES OF THE VARIOUS HIGH SCHOOLS IN THE UNITED STATES ACCORDING TO ENROLLMENT*

Enrollment	Number	Per cent	Cumulative per cent
10– 24†	1372	5 6	5.6
25– 49	2643	10 7	16.3
50– 74	3051	12 4	28.7
75– 99	2661	10 8	39.5
100– 199	6407	26.1	65.6
200– 299	2561	10.4	76 0
300– 499	2271	9.2	85.2
500– 999	1940	7 9	93.1
1000–2499	1444	5 9	99.0
2500–4999	190	8	99.8
5000 and over	50	.2	100.0
Total..........	24590	100.0	

* Based on Biennial Survey of Education, 1937–38, *U.S. Office of Education Bulletin* 2, 1940, Chap. V, pp. 5–6.

† There are 467 high schools enrolling fewer than 10 pupils which are listed separately in the Survey.

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[1] Alexander Efron, Current Trends in Soviet Secondary Education, *The Educational Forum*, **3** (March, 1939), p. 291.

They range in size from fewer than 10 pupils, to the James Monroe High School (New York City) which enrolled 10,476 pupils in 1938. In the same year there were about 2,000 schools trying to maintain a four-year high-school program with one or two teachers, and 467 high schools enrolling fewer than 10 pupils.[1] The Office of Education reported for 1937–38 fifty schools which had enrollments of more than 5,000, most of which were located in New York and Brooklyn, and five in Chicago; the others were in Indianapolis, Ind.; Jersey City, N.J.; Phoenix, Ariz.; Tulsa, Okla.; Los Angeles, Calif.; and New Haven, Conn.[2] In 1930 over 60 per cent of the schools enrolled 100 or fewer pupils, but since that time consolidations have reduced the percentage to 39.5 which is a good indication of improvement.

Although the maximum size of a high school for economy and efficiency is a debatable question there is considerable agreement as to the minimum. A high school employing fewer than 12 teachers cannot be adequately staffed, for this number is required in order to provide for adequate administration, supervision, and enough classroom teachers to support a program sufficiently broad and varied to meet individual needs and differences.[3] A school staffed with 12 teachers can enroll 300 or more pupils as easily as fewer and still retain a pupil teacher ratio of less than 30 to 1, which is near the national average. A school of this size will also assure greater economy as determined by the annual cost per pupil enrolled.

On the other hand, the large high school came into existence because of the rapidly increased enrollments in urban areas, which have crowded and congested many buildings originally designed for fewer pupils. The large high school has maintained its existence in the face of almost universal antagonism.[4] However, one should not confuse an overcrowded school with a large one. Manheimer maintains that the optimum size of a high school cannot be stated in terms of numbers but that a functional definition should be the criterion. He formulated the following definition: "The size of the school should be . . . that smallest number of pupils which will enable the principal to segregate a sufficiently large-sized group into the various perpendicular curricula, so the pupils in each curriculum can be stratified on an ability basis." This definition implies a large school, and is based on the assumption that homogeneous grouping is desirable, a practice which is debated, even though it may not be debatable.

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[1] Emery M. Foster, High-School Enrollments Increase, *School Life*, **23** (November, 1937), p. 77.

[2] Biennial Survey of Education, 1937–38, *U.S. Office of Education Bulletin* 2, 1940, Chap. V, p. 6.

[3] Frederick E. Bolton, Thomas R. Cole, and John H. Jessup, "The Beginning Superintendent," p. 519, The Macmillan Company, New York, 1937.

[4] W. A. Manheimer, In Defense of the Large High School, *School and Society*, **46** (November 20, 1937), pp. 641–650.

THE SECONDARY SCHOOL POPULATION

Growth in Secondary-school Enrollments.—It is estimated that for the school term 1937–38 there were 6,259,372 pupils enrolled in the upper four years of the public secondary schools of the United States (Fig. 3), and in both public and private there were 6,646,681.[1] In 1880 there were only 110,227 pupils enrolled in this division. The increase since then has been 5,470 per cent (Fig. 4). The enrollment has doubled every decade from 1880 to 1930, but the increase for the period 1930 to 1940 was only about 40 per cent. The increase was much greater than the growth of the general and of the college population. As stated by the Advisory Committee on Education, "nothing in the evolution of American education has been more dramatic in its sweep than the development of the public secondary school."[2]

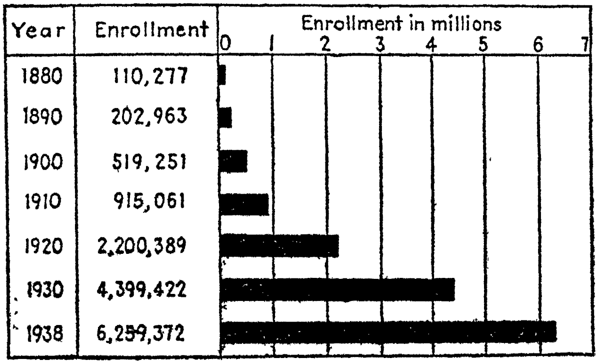

FIG. 3.—Growth of the public-high-school enrollments in the United States from 1880 to 1938. Drawn from data presented by Emery M. Foster, High School Enrollments Increase, *School Life*, 23 (November, 1937), p. 77, and Statistics of Public High Schools, 1937–38, *U.S. Office of Education Bulletin* 2, 1940, p. 20. These data are for the upper four years only.

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[1] Statistics of Public High Schools, 1937–38, *U.S. Office of Education Bulletin* 2, 1940, p. 20. See also footnote 1, p. 33. This figure includes 5,928,076 pupils enrolled in the last four years of high school, 34,472 in ungraded vocational schools, and 296,824 in evening schools.

[2] Payson Smith, Frank White, and Associates, "Education in the Forty-eight States," p. 27, Advisory Committee on Education. Government Printing Office, Washington, D.C., 1939.

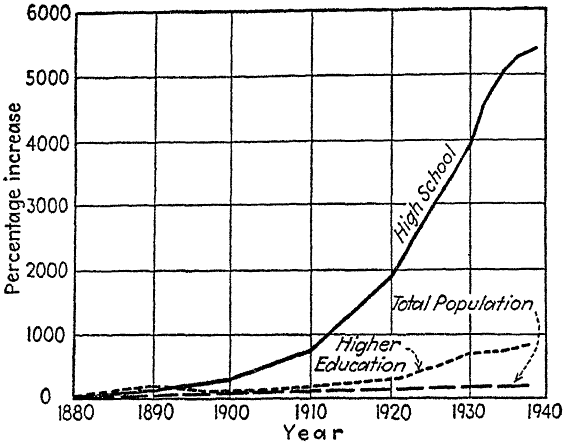

FIG. 4.—Percentage of increase of the secondary-school population as compared with that of higher education and the total population of the United States from 1880 to 1938. Data were secured from Grayson N. Kefauver, Victor H. Noll, and C. Elwood Drake, The Secondary School Population, National Survey of Secondary Education, Monograph 4, *U.S. Office of Education Bulletin* 17, 1932, and Emery M. Foster, Changes in Public School Enrollment, *School Life*, 25 (April, 1940), p. 199.

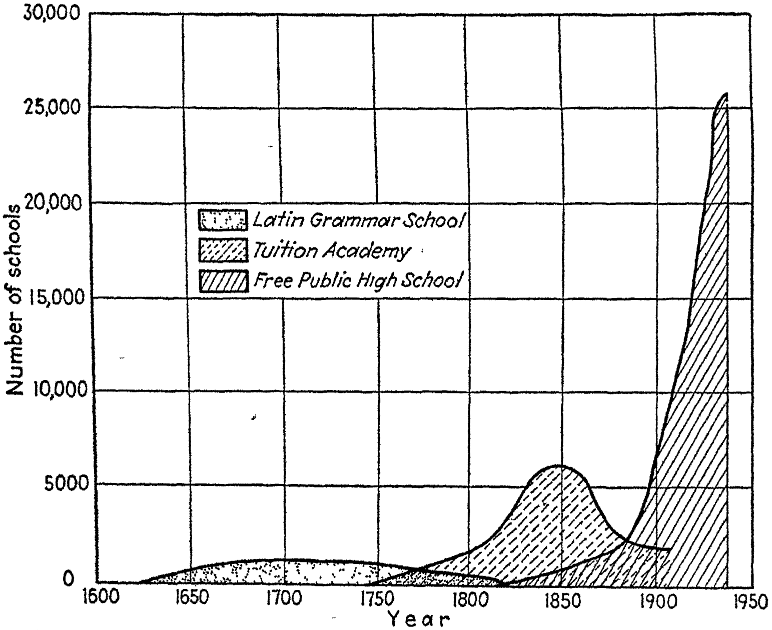

FIG. 5.—Development of secondary schools in America from 1635 to 1940. After E. P. Cubberley, "Public Education in the United States," Houghton Mifflin Company, Boston 1919, p. 192. Extended by the authors from data given in Fig. 2.

Percentage of the Population Enrolled in Secondary Schools.— If one considers the total population between the ages of 14–17 inclusive as the potential secondary school population, 59.5 per cent of the group were enrolled in the upper four years of the public secondary schools in 1934. If those pupils enrolled in private schools are added the percentage is increased to 64 per cent.[1] This figure will be increased further if those attending night schools, part-time, and continuation schools are counted.

Although the average percentage enrollment in secondary schools for the nation as a whole is 64 per cent, there are great variations in local communities, states, and sections of the country. In some communities, practically all pupils between the ages of 14 to 17 are actually enrolled in school, while in others, especially in rural sections, it may be as low as only 20 to 30 per cent. In 1933–34, the state of California enrolled 89.9 per cent of the potential population,[1] and at the other extreme the average for the Southeastern states was only 34 per cent, indicating that about half of them enroll fewer than 34 per cent.

Variations between various sections of the United States reveals great differences. In 1936 the percentage of pupils between the ages of 14–17 in high school by sections were:[2]

	Per Cent
Far West	75
Southwest	50
Southeast	34
Northwest	65
Middle States	50
Northeast	52

It will be some time before the Southeastern section enrolls even half of the potential population. These states have accepted goals as high as in other sections, but due to the fact that they have a smaller proportion of the nation's wealth, and are rural states, they are unable to advance so rapidly. Considering all rural areas of the nation, the percentage is about 60.5, as contrasted with 67.9 per cent in urban sections.[3]

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[1] Biennial Survey of Education, 1934–36, *op. cit.*, Chap. II, p. 1.

[2] Population Trends and Their Educational Implications, *Research Bulletin of the National Education Association*, 16 (January, 1938), p. 35.

[3] See Table 22, Chap. VI.

Trends in High-school Enrollment.—The rapid increase in the high-school enrollments could not be expected to continue indefinitely. The increase from 1930 to 1938 was 1,859,950 pupils or 42.3 per cent, with the greatest increase for the period from 1930 to 1932, amounting to 16.8 per cent.[1] This decrease in the rate of growth of the secondary-school population (see Fig. 3) is to be expected for the saturation point is being approached. Further decrements will be felt shortly after 1940 because the peak of enrollments in the elementary school was reached in 1930 and showed a definite decline during the school year 1933–34. This decline will soon be reflected in the high school.[2]

It is estimated that in 1940 there were 9,699,000 youth between the ages of 14 to 17 inclusive (Table 5) and in 1941 there will be 9,709,000, which is the largest number of youth of high-school ages to be expected, for after that time a decrease will occur.[3] These estimates are based on population trends, considering the birth rate, mortality, and immigration.

TABLE 5

POPULATION 14 TO 17 YEARS INCLUSIVE AND SECONDARY-SCHOOL ENROLLMENT FROM 1890 TO 1940*

Year	Population 14 to 17 years inclusive	Number enrolled in school
1890	5,354,653	357,813
1900	6,152,231	695,903
1910	7,220,298	1,111,393
1920	7,735,841	2,494,676
1930	9,341,221	4,799,867
1940	9,699,000†	7,000,000‡

* Biennial Survey of Education 1934–36, *U.S. Office of Education Bulletin* 2, 1937, Chap. I, p. 12.

† Estimated; Population Trends and Their Educational Implications, *Research Bulletin of the National Education Association*, 16 (January, 1938) p. 52.

‡ Estimated.

The high-school enrollment may be expected to increase beyond this period for only about 70 per cent are now enrolled and as employment of youth is decreased and high-school facilities made available, a larger proportion will enroll in high schools. How long secondary-school enrollments will continue to increase is purely a matter of speculation. The maximum percentage which will be reached has been variously estimated from 80 to 90 per cent, and even higher in some sections.

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[1] Education in the United States, *op. cit.*, p. 7; also Fig. 3.

[2] *Ibid.* See also Biennial Survey of Education, 1934–36, *op. cit.*, Chap. I, p. 7.

[3] Population Trends and Their Educational Implications, *op. cit.*, p. 52.

Selectivity of the Secondary-school Population.—Although still selective, the high school is becoming a less selective institution. In 1890 only 0.32 per cent of the total population were enrolled in high schools, which, when compared with the present-day college enrollment, reveals that the colleges are enrolling a greater proportion of the population now than the high schools were enrolling then. In 1933–34 the colleges and universities of the United States enrolled 0.87 per cent of the total population, and in the same year the high schools enrolled 4.48 per cent of the total population.

It would be natural to expect that the increased enrollment would change the character of the total school population. Due to the nature of the curriculum, and the inaccessibility of schools, only those who could afford to attend from a financial point of view, or were planning to attend college, pursued secondary-school curriculums in the past. Studies have shown that these pupils were better than average in mental ability, and were somewhat homogeneous with respect to vocational intentions, that is, most of them were intending to pursue the professions. The increase in the enrollment brought into the school a heterogeneous group with respect to interests, capacities, and vocational intentions, and the average mental ability decreased to that of the general population.

Causes of the Increased Enrollments of the Secondary School.—The increased faith in education is one of the primary causes for the increased enrollment in the secondary school. After 1880 when the legal status of the high school as a free public institution became established, the enrollment started increasing. As the enrollment increased the curriculum was changed to meet the needs, interests, and abilities of the heterogeneous population. This was a reciprocal influence, for the enriched and broadened curriculum was not only a result of increased enrollment but also a cause of attracting still more pupils and further increasing the confidence of the general public in the institution.[1]

Other factors which were influential in causing an increase in the secondary-school enrollment were:

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[1] Leonard V. Koos, "The American Secondary School," p. 13, Ginn and Company, Boston, 1927.

1. A drift toward urban life. In rural areas schools were not accessible to many who wished to attend while they had been established in urban centers. As the urban population increased at the expense of the rural, an influx of pupils in the public schools was a result.

2. Improved methods of transportation. Schools could not be accessible, nor consolidations possible, until roads were built and methods of transportation improved.

3. Increased leisure. The machine age brought shorter working hours and increased leisure for educational pursuits.

4. Child labor and compulsory school-attendance laws. Improved child-labor laws naturally followed a machine age and increased leisure. Combined with a growing faith in education these factors lead to the enactment of compulsory school laws and the extension of the upper age limit of others. Early compulsory school laws did not extend beyond the leaving ages of the elementary school. In 1934 the maximum compulsory school attendance age was 18 in five states, 17 in six states, 16 in thirty-one, 15 in one, and 14 in five states.[1] Since the average age for the ninth grade is about 14 years all states save five extend the compulsory school attendance beyond that for high-school entrance and eleven states to the ages at which the average pupil graduates from high school. However, these attendance laws do not hold all pupils in school to these ages, for many states specify either attainment of a certain age or completion of the eighth grade before one may leave school, or work permits will be given after the eighth grade is completed.

5. Desire for increased culture. A desire to increase the cultural level of the nation and a belief that this attainment depends upon attendance at school has caused many to turn to the secondary school purely for cultural purposes.[2]

Enrollment in the Various Sizes of High Schools.—Although the majority of the high schools have enrollments of 150 or fewer, the majority of the pupils attend schools with enrollments of over 200. This is obvious from the fact that there are many schools with enrollments of 1,000 or over and it would require many of the small schools to equal the enrollment of one large one. As shown in Table 4, the percentage of schools enrolling fewer than 100 pupils is 39.5, while about 7 per cent of all pupils attend them (Table 6). Thus almost half of all high schools were established in order to make it possible for a relatively few pupils to have the advantage of a secondary education. On the other hand, 42.9 per cent of all secondary-school pupils are enrolled in schools with populations of 1,000 or over.

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[1] Walter S. Deffenbaugh and Ward W. Keesecker, Compulsory School Attendance Laws and Their Administration, *U.S. Office of Education Bulletin* 4, 1935, p. 11.

[2] Koos, *op. cit.*, p. 13.

Enrollment in the Various Types of High Schools.—The regular or four-year high school is the predominating type comprising 61.3 per cent of the total number of all schools; but over half (56.5 per cent) of all pupils are enrolled in reorganized schools. This observation is verified by the fact that only one in six of all schools enrolling fewer than 100 pupils is reorganized. As shown in Table 7, the majority of all pupils are enrolled in public schools; the private schools enroll about 6 per cent.

TABLE 6

APPROXIMATE PERCENTAGE OF PUPILS ENROLLED IN HIGH SCHOOLS OF VARIOUS SIZES*

Size of School	Percentage Enrollment
10– 99	6.6
100– 499	32.9
500– 999	17.6
1000–4999	38.8
5000 and over	4.1

* Computed from data presented in Table 3.

Sex.—The American secondary school is unique in that both sexes are represented and the schools are coeducational, although there were 87 high schools for boys only and 76 for girls only, reported by various cities for the year 1937–38. For some years

TABLE 7

ENROLLMENT IN THE VARIOUS TYPES OF HIGH SCHOOLS IN THE UNITED STATES, 1937–38*

Type of school	Enrollment		
	Boys	Girls	Total
Junior high schools	697,554	711,030	1,408,584
Senior high schools	479,360	492,858	972,218
Undivided junior-senior	880,637	931,426	1,812,063
Total reorganized schools	2,057,551	2,135,314	4,192,865
Regular high schools	1,556,695	1,671,142	3,227,837
Total public high schools	3,614,246	3,806,456	7,420,702
Private high schools	....	....	387,309
Total public and private	....	....	7,808,011

* Data secured from Biennial Survey of Education 1936–38, *U.S. Office of Education Bulletin* 2, 1940, Chap. V, pp. 20, 33, 35, and Biennial Survey of Education, 1934–36, *U.S. Office of Education Bulletin* 2, 1937, Chap. I, p. 19.

the percentage of girls enrolled in high schools exceeded the number of boys, but recent figures indicate that the sexes are now almost equally divided (Table 8). This inequality in the past can be accounted for on the basis that the curriculum has a greater appeal for girls and even though they found phases of it uninteresting, being more docile than boys, and having a greater capacity for submitting to the uninteresting, they continued to attend while the boys dropped out. The percentage of girls increases to the senior year, and more girls than boys graduate. On the other hand, boys are attracted into industry more than girls. The recent increase in the number of boys in the last decade is at least partial evidence that recent curriculum revisions and the reorganization of the schools is a factor in making the school more attractive for boys. It is due partly to the fact that recently boys have been less able to secure employment.

TABLE 8

PERCENTAGE OF BOYS ATTENDING AMERICAN SECONDARY SCHOOLS FROM 1905 TO 1938*

Year	Per Cent
1905	42.0
1920	43.7
1922	46.4
1928	48.0
1938†	48.7

* Biennial Survey of Education, 1926–28, *U.S. Office of Education Bulletin* 16, 1930, Chap. XXIV, p. 970.

† Computed from Table 1.

Intelligence.—As shown by the National Survey of Secondary Education, the average intelligence quotient of all secondary-school pupils, including those of trade and vocational schools, is about 100, revealing that the secondary-school population is now representative of the general population.[1] However, there is considerable variation in the average intelligence quotients of the different curricular groups. The average I.Q. as shown by an investigation by Rutledge and Fowler is as follows: college preparatory, 111; commercial, 99; general, 97; trade, 93; and the average for all groups, 102.[2] This study verified the findings of the

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[1] Grayson N. Kefauver, Victor H. Noll, and C. Elwood Drake, The Secondary School Population, National Survey of Secondary Education, Monograph 4, *U.S. Office of Education Bulletin* 17, 1932.

[2] R. E. Rutledge and A. Fowler, The Changing Senior-high-school Population and the Curriculum Problem, *School Review*, **40** (February, 1932), pp. 109–114.

National Survey in which they reported the following intelligence quotients of all groups: median of all schools studied, 102; Q_1, 84; and Q_3, 118. The authors of the National Survey state that the trend is definitely toward greater intellectual democratization, that is, toward increased representation in secondary schools of intellectually less competent youth.[1] This does not mean that the secondary school is no longer an intellectually selective institution, but that it is less selective than formerly. In some states as in Mississippi and Arkansas, in which the percentage of the potential high-school population enrolled in school is low, the secondary school is still to some extent a selective institution, while in states like California where 89 per cent of the potential population are enrolled in school, the high school becomes less selective and the population is almost a cross section of the general population. These percentages indicate the enrollment only, but do not reveal the holding power. Only 52 of each 100 who enter graduate, showing an additional selective factor.[2]

Classes of People Represented.—The secondary school has shown a tendency toward greater democratization, not only with respect to abilities, but also with respect to classes of people represented. Formerly the high school was populated almost entirely by those of the professional classes and those in comfortable circumstances. Today, the laboring classes are taking advantage of public high schools, which is one factor causing the large increase in the enrollment. There are exceptions to this. In some communities it is still the prevailing idea that the secondary school is only for those of the so-called upper classes, and although those of the laboring or lower classes are not excluded, in many obvious ways they are shown that they are misfits and out of place. The curriculum is made narrow and follows college preparatory or classical patterns, and standards are elevated in order to make the school uninteresting and difficult in order to exclude those not wanted. In some sections pupils of the laboring classes, and nonresident pupils, are not accepted socially by their classmates. They are barred from various activities, and are not given a very sympathetic welcome on the part of the teachers, which has a tendency to discourage a prolonged stay in the high school.

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[1] Kefauver, Noll, and Drake, *op. cit.*, pp. 17–21.

[2] Emery M. Foster, School Survival Rates, *School Life*, **22** (September, 1936), pp. 13–14. In 1938 this figure had increased to 55. See Statistics of Public High Schools, 1937–38, *op. cit.*, p. 14.

This situation is not general and such tendencies are fast disappearing. As demonstrated by the decline of the academy, the American people will not long permit any marked undemocratic tendencies in the school system. Parents consider the high school as a place where they can send their children and they expect them to remain, to receive passing marks, and to graduate. The high school was established and is supported because it offers opportunities for secondary education for the masses.

The High School as a Democratizing Agency.—In the United States with its heterogeneous population, national unity and integration can be achieved only through the operation of social and economic institutions. The secondary school is only one of these institutions. The church, home, press, radio, and cinema all may be considered as educational agencies affecting the lives of American youth. It is a part of the national program to inculcate democratic principles in order to perpetuate the nation and its institutions. In this capacity the secondary school is one of the greatest democratizing agencies in existence. The elementary school accomplishes this to a great extent, but there the emphasis is placed upon the acquisition of tools of learning and it is in the secondary school that these tools are employed to gain an understanding of social and economic institutions which have been developed and which should be perpetuated.

The high school receives pupils of both sexes, of various religious denominations, and makes no distinction between those of varying social and economic levels. When they enter the high school they are a heterogeneous group with respect to attitudes, ideals, tolerations, and prejudices. When they leave it is hoped they will be more like-minded than when they entered. This, perhaps, is more of an ideal than an actual accomplishment; but it is safe to say that if the secondary school has not achieved this aim at least in part, secondary education for the masses cannot be justified.

Articulated School System Essential.—Articulation in our school system means the bringing together of the various parts to form a unified whole. Although the various divisions have different aims and functions and are organized separately, the divisions should be so united that pupils may pass through the entire system without being handicapped through faulty administration, techniques of teaching, or curriculum. They should not experience any sudden gaps which must be bridged before further progress can be made. Ideally, there should be no more difficulty in passing from grade 8 to 9 or from high school to college than from grade 3 to 4. Actually, this ideal is far from being achieved even though we claim to have a school system which is more sequentially related than that of any other country. A well-articulated school system is essential to the best interests and progress of all pupils.

Can the People of the United States Afford Secondary Education for the Masses?—The cost of constructing and equipping a secondary-school building and employing teachers has been a problem since the beginning of secondary education. Past, and many present, methods of financing the enterprise have resulted in gross inequalities in educational opportunities, and high costs to the taxpayer. Districts, counties, and states vary in their abilities to support secondary education. The district system accentuates these differences since each one includes a small area. Larger administrative units and newer methods of securing revenue are needed reforms in equalizing educational opportunities for all the youth of America. Although the cost of secondary education will be discussed in greater detail in a later chapter, it will suffice to say here that supporting secondary education should not be a burden to any taxpayer, that the costs should be equalized, and that every youth in America should have an equal opportunity to secure a secondary education which is designed to meet his individual needs and capacities. The national bill for all public elementary and secondary schools in the United States for the year 1935–36 was $2,650,000,000. That for secondary education was $809,613,546,[1] which is a small amount when compared with the annual expenditure for many commodities, such as the pleasure automobile, radios, jewelry, tobacco, and liquor. The United States can afford secondary education for all youth if the attainment of that goal is sufficiently desired.

Relation of This to Subsequent Chapters.—This chapter had as its aim that of orienting one in the study of the American secondary school. It attempted to reveal the scope of the magnitude of the enterprise and give a cross section or general picture of the school and its importance in this country. This general survey has shown that the American people have established educational goals including the extension of secondary education to the masses at public expense regardless of race, sex, or creed; the democratic features of the high school as compared with the Latin grammar school, the academy, and schools of other countries; how a large number of small schools have been established to make educational opportunities available to all youth, and the cost in dollars and cents to maintain this enterprise. The question which most logically follows is, why have secondary schools been established? or why do the American people want universal secondary education? and what are the purposes of the school to society?

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[1] Education in the United States, *U.S. Office of Education Bulletin* 3, 1939, p. 55.

These questions will be answered in the next and subsequent chapters.

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CHAPTER II

PURPOSES OF SECONDARY EDUCATION

In the previous chapter the question was raised "Why do the people of the United States want secondary education?" It is quite evident, as shown by the extent to which it has been established, that they do want it. The high school was not forced upon the people by a minority without the consent of the masses. If it had been it would not have been supported and could never have had the most rapid growth any educational institution has ever had.

As an example of a nonacceptance by the masses of an educational institution which was not wanted, the Latin grammar school may be cited. This school, established by a few outstanding leaders to perpetuate the knowledge of their fathers and assure a trained ministry, was never very popular even in New England and did not approach popularity outside New England. The academy, having a more practical curriculum, was more generally accepted. The high school grew in proportion to the extent the people wanted secondary education, and at no time could its growth exceed the desire.

Civilization and Schools.—While living in a primitive state, or living a very simple life, man did not need schools. In such a state, man's needs were very simple and few, and the training of youth could well be accomplished in the home, or incidentally through his own observations and experiences. As civilization became more and more complex, as institutions were developed to supply man's needs, as cooperation between groups extended, the age of infancy was extended, and the school, as an institution, developed. At first, only elementary schools were necessary, especially for the masses, who needed only the fundamental principles of reading, writing, and arithmetic. Secondary education and institutions of higher learning were for the training of a few leaders only. As society became more and more complex, secondary education became an essential, not a luxury, for everyone.

Generally speaking, the need for secondary education was felt before it was expressed in definite terms. Although a need or desire preceded the establishment of schools, making these needs articulate and expressing them in the form of functional aims often followed rather than preceded the establishment of schools. Many Latin grammar schools were established to prepare boys for college when there were no colleges available, and many high-school graduates, a few decades ago, when it was considered by many as primarily a college preparatory school, never attended college. For various reasons the values of secondary schooling have been carefully examined and expressed in the form of aims or objectives. The general aims have remained more constant than specific aims. There are some things society has always wanted, such as good citizens, but the characteristics of a good citizen, how such a status may best be achieved, and the role of the school in achieving this, are phases of this general aim which must undergo constant changes.

Value of Aims.—Without definite aims and purposes secondary education would be chaotic rather than orderly. It would be impossible to formulate any guiding principles of method or curriculum construction. The aims give direction to all activities and enable one to answer such questions as: what is the purpose of secondary education? who should attend? what activities should be provided? and, one of the most important questions, how can secondary education be evaluated?

Many criticisms have been made of the high school by those who are not familiar with the aims and purposes of the institution, as for example, the criticism that too many youth are attending high schools, including many who are not displaying a great amount of scholarship in certain formal subjects, honored because of their long tradition. This criticism would not be made if the true aims were known. Erudition or scholarship is not the primary aim of the high school, although many insist that it should be stressed more.

Incidental or False Reasons Advanced for Establishing High Schools.—Many parents, teachers, and assembly speakers have voiced aims which are not sound, are false, or are merely incidental. These have often been detrimental to the welfare of the school for the claims could not be justified. Some of them are:

1. *To Make More Money.*—Incomes of various groups, when compared with the amount of schooling obtained, show an increase with schooling. This is often interpreted to mean that if one goes to high school he is assured of increasing his income. The fallacy of the claim is in assuming that high-school attendance is the cause

of the better incomes, while actually, since the school was and is a selective institution, those who attended would have earned more anyhow. Many parents who sent their children to high school for this purpose were disappointed.

2. *To Elevate Social and Vocational Position.*—High-school graduates do occupy positions of a higher social and vocational level, or more of the so-called "white-collar" jobs; but, again, they do so because of a superior ability, and not primarily because they went to high school. Since the high-school population is increasing and the number of higher positions is remaining about the same, a lower percentage of high-school pupils can secure them.

3. *Formal Discipline.*—The discredited doctrine of formal discipline has almost been discarded, but it is still considered valid with many persons especially those who wish to retain the study of such subjects as Latin, formal grammar, and algebra in the high school and do not know that they have other values which are valid. This doctrine is a direct influence of the Latin grammar school, but its beginnings extend back to the days of Plato.

The greatest influence of the Latin grammar school is shown by the position Latin occupies in the secondary-schools today, and the reasons advanced for retaining it. It was long a practical subject when Latin was a universal language of learning, and became a cultural subject when it ceased to be practical. Many doubtful reasons were advanced for retaining it in the curriculum, chief of which was the disciplinary value claimed for it.

The disciplinary value of a subject can be traced back to Plato whose chief idea was to train the mind so pupils could think in the world of ideas or engage in abstract thinking. Disciplinary training might be along physical as well as mental lines, such as training in physical endurance, or training in moral fields to conquer desires and develop the will. Formal discipline does not always represent a conscious theory developed in the past, but is a term usually used to denote a type of training. When schools were attacked because of their formality, schoolmen advanced the disciplinary theory.

In attempting to interpret and apply the writings of Locke to education and the management of children the Puritans came to some unusual conclusions. In his writings they found support for the ideas that free expression should be suppressed, the will should be brought into subjection, and the body should be made to endure hardship. They further interpreted Locke to say that play should be stopped and that children should be forced to engage in activities that were difficult and unpleasant.

This strong influence of the early Puritans and educational leaders caused formal discipline to have more influence in the eighteenth and nineteenth centuries than any other doctrine. It is founded upon faculty psychology which holds that the mind is composed of distinct faculties each capable of being trained and of operating in any field. The emphasis is placed upon general, rather than specific training. According to it the curriculum should contain a few well-selected subjects which, if they are to train the mind, must be difficult. Emphasis is placed on method rather than content; on the theoretical rather than the practical, and on effort rather than interest. The subject must be organized logically, rather than pedagogically and no attempt must be made to adapt it to child nature. Proponents of this doctrine believe in extreme training in habit formation, in drill, and in much rote memory work even if it is not understood.

These ideas characterized the Latin grammar-school leaders and continued with modification until the twentieth century. As new subjects were proposed, they were criticized on the ground that they had no disciplinary value, while old subjects, such as formal grammar and Latin, were retained because of the traditional belief in their disciplinary value. It was not until the twentieth century that this theory was discredited, and the curriculum of the secondary school began being built on practical needs and pupil interests. Even today much school practice implies a belief in mental discipline.

4. *Culture.*—Culture, properly defined, is a legitimate aim of secondary education, but many attend school to acquire the marks of culture rather than to increase their culture. One cannot become cultured by assuming or acquiring the marks only. For example, books in one's home are evidences, rather than causes of culture. One who has the symbols and not the substance has what might be called a "veneered" culture. Only recently a parent made the remark that one cannot be cultured unless he has studied algebra, Shakespeare, and Latin. "To pass on the cultural heritage of the race" is a legitimate aim; but to give a veneered culture to special classes is a false aim.

5. *Knowledge for Knowledge's Sake.*—Briggs, in discussing the getting of knowledge for the sake of knowledge, shows the absurdity of the phrase by substituting any other word for "knowledge."

He remarks "only an erratic would collect bathtubs for the sake of bathtubs or doorknobs for the sake of doorknobs."[1] Pursuit of knowledge is always motivated by some force other than the knowledge itself, as utility, beauty, curiosity, or a desire to excel, rather than for the sake of some subject.

Many of these statements given as the purposes of secondary education are not entirely invalid. They are incidental or secondary to the primary purposes. If these were the chief purposes, it is doubtful if the secondary school would continue to be supported.

Before presenting the true aims of public secondary education, the basis of educational aims will be given followed by the aims of other schools.

THE BASIS OF EDUCATIONAL AIMS

Educational aims are social aims which have been selected by the schools. All educational aims are social; but all social aims are not educational, for the schools do not accept all social aims.

Changing Aims of Schools.—Since educational aims are social aims, as society changes the aims must change, be redefined, or at least shifted in emphasis. Aims of schools are expressions of what society wants. Among the things they have always wanted are good citizens; but what constitutes a good citizen in one state, or generation, does not necessarily do so in another. If perpetuation of the state and its institutions and the development of culture are what is wanted, the schools must constantly change their aims, for those are constantly undergoing transformations.

Characteristics of Good Educational Aims.—The school as an institution cannot accept some needs of society as aims. Wesley gives four principles for determining objectives: (1) they must have the approval of society or at least some articulate groups; (2) they must be susceptible of being achieved through instruction; (3) they must suggest activities that are within the capacities of the school population; and (4) they must be actually accepted and undertaken by the school. Any aims which fail to meet these conditions may be objectives of society, but are not educational objectives.[2]

Since educational aims express the sentiment and needs of society, public education will not long be supported if society does not approve of them nor can they go far ahead of or lag far behind society. Often a minority pressure group makes demands, and educators must decide whether the demand is of the entire group or only a small part.

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[1] Thomas H. Briggs, "Secondary Education," p. 483. By permission of The Macmillan Company, publishers, New York, 1935.

[2] Edgar Bruce Wesley, "Teaching the Social Studies," pp. 160–161, D.C. Heath and Co., New York, 1937.

If the objective is not able to be achieved in the school, it is not valid even though it might be a good social objective. The school at best has many artificial features and what is taught in school, to be of value, must function outside of school. Under these conditions, some things cannot be accomplished by the school regardless of how desirable they may be. Furthermore, if the objectives are not within the capacities of the pupil, little can be accomplished toward achieving them, and if the school does not undertake the task of meeting an objective, it is not educational. More objectives are proposed than accepted, because they do not fall under these four characteristics of educational aims. The actual choice of the objectives requires evaluation and judgment on the part of those who formulate them.

A social aim may not be accepted by the schools as an educational aim, providing the objective is attained better by some other agency. As long as the home was the best agency for making persons worthy home members, and the church the best for developing ethical character, the schools did not accept them as objectives. Changes in the home and church, together with social changes, required that these become educational objectives. Consumer education and safety education are recently accepted educational aims. To an extent, these were referred to schools by society with some reluctance on the part of the schools to accept them. The school should not be too eager to accept every objective referred to it, and attempt not only to change, but even to build a new social order. It is too popular already to refer all the problems of society to the schools.

Educational aims should be definitely and functionally stated. Vague generalizations are of little value. To say merely that "the secondary school is a social institution designed to meet certain basic needs of society" is too general, for it does not answer the question: "What needs?" Likewise, "exploring the various fields of knowledge" is too indefinite, for it does not give a cue to the fields which should be explored. "To pass on the cultural heritage" if given as an aim, raises the question at once "what is the cultural heritage?" "To perpetuate the state and its institutions," implies that all state institutions should be perpetuated without change. Again, if the schools are to prepare citizens, then what constitutes a good citizen must be determined if the aim is more than a general statement which has little meaning.

Who Formulates Educational Aims?—Until a need of society or a sufficiently large group has become definite or articulate, it cannot become an aim. When it does, educators or committees formulate it into aims. It requires keen insight into human activities, and a study and analysis of society as a whole, and of the individuals composing society, to determine what the objectives should be. Even then they might not be accepted, and many which are proposed are not accepted. Minority groups are always desiring to use the schools as instruments to perpetuate a principle, cause, doctrine, or belief, or to bring about a social or economic reform. The schools are instruments of the state, not groups within it. If a political party gains power, as in Germany, the schools may be used to indoctrinate youth with the principles of that party, for no one can prevent their doing so.

Ultimate and Immediate Objectives.—The two chief types of objectives are known as ultimate or general, and immediate or specific. The former are what is eventually expected as an outcome, while the latter will determine the specific activities for achieving these general outcomes. Immediate objectives are usually divided into three classes (1) factual information, knowledge, principles, and rules; (2) skills, habits, and techniques; and (3) attitudes, appreciations, interests, and ideals. For example, citizenship is an ultimate aim, but respect for law and a knowledge of the constitution are immediate aims. Aims cannot be taught as abstractions; they must be broken down into specific outcomes which can be achieved through proper activities in the school.

AIMS OF CERTAIN SECONDARY SCHOOLS COMPARED

Aims of secondary schools making provision for the classes may be and usually are different from those which serve the masses. Those which served the classes as the Latin grammar school, the academies to a great extent, and the schools of Europe place greater emphasis on scholarship and preparation for higher institutions than they do on practical or utilitarian values.

The Latin Grammar School.—The aim of the Latin grammar school was preparation for college with emphasis upon mental discipline and moral training. Even this stated aim was not wholly accurate, for many who attended the Latin grammar school did not attend college, and as the Colonial period advanced more than college preparation was demanded. The aims of those established in various parts of America were about the same. According to the Massachusetts law of 1647, the grammar schools were established to prepare for college "that learning may not be buried in the grave of our fathers in the Church and Commonwealth."[1] In Maryland, schools were established for the training of young men "for the service of God, in church and commonwealth."[2]

Massachusetts School Ordinance of 1647.—The Massachusetts school ordinance of 1647 was enacted by the General Court of Massachusetts and was the second it had enacted. The first enacted in 1642 was remarkable in that it was the first law in America requiring pupils to be taught to read. The prime motive was for religious instructions and also that youth might be familiar with the civil laws. The second act is often referred to as the "Old Deluder Satan Act" of 1647. It is a most important piece of school legislation because it was the first state intervention in education in the New World. Some quotations from the act are:

> It being one of the chief projects of that old deluder Satan to keep men from the knowledge of the Scriptures, as in former times by keeping them in an unknown tongue—that learning may not be buried in the grave of our fathers in the church and Commonwealth, the Lord assisting our endeavors: It is therefore ordered that every township in this jurisdiction of 50 householders, shall then forthwith appoint one within their town to teach all children as shall resort to him to write and read, whose wages shall be paid either by the parents or masters of such children, or by the inhabitants in general—It is further ordered, that when any town shall increase to the number of one hundred families or householders, they shall set up a grammar school, the master thereof being able to instruct youth, so far as they may be fitted for the university; provided, that if any town neglect the performance hereof above one year, that every such town shall pay five pounds to the next school until they shall perform this order.[3]

The law was ahead of its time and was difficult if not impossible to enforce. Many towns preferred to pay the fines rather than to establish the grammar schools, although about 35 schools were established in New England by 1700. The law did not consider different times and conditions and a changing frontier as colonists spread out by moving westward. Seybolt has shown that the Latin grammar school was never popular with large groups in the population and that many attended private schools offering subjects considered more immediately valuable.[1] The fact that Massachusetts laws of 1671, 1683, 1701, and 1718 successively raised the penalties for failure to establish grammar schools, further indicated that the public was not convinced of the value of secondary education. W. H. Small has summarized the attitude toward the Latin school in these words:

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[1] Quoted in I. L. Kandel, "History of Secondary Education," p. 120, Houghton Mifflin Company, Boston, 1930.

[2] *Ibid.*, p. 113.

[3] *Ibid.*, p. 120.

> The grammar school was not a popular institution: it was conceived, supported, and perpetuated by the few; its extension was slow; its course in most towns was erratic; and yet, considering all the struggle of this period, it was a marvelous institution, the bed rock of future educational systems.[2]

The Academies.—The aim of the academies was pitched more for the masses and revealed a decided function of the secondary school as an institution to prepare pupils to live as well as to prepare pupils to go to college.

Benjamin Franklin's aim was:

> The good education of youth has been esteemed by wise men of all ages, as the surest foundation of the happiness of private families and of commonwealths. Almost all governments have therefore made it a principal object of their attention to establish and endow with proper revenues such seminaries of learning, as might supply the succeeding age with men qualified to serve the public with honor to themselves and to their country.[3]

The aim of the Phillips Academies (1778) was "the great aim and real business of living." Just what constituted this was not definitely stated before the analysis of individuals after the Civil War (see Table 9).

Aims of the Schools of Europe.—Secondary schools of Europe, still largely for the classes, have aims which are less practical or utilitarian. In England, emphasis is placed more on the training of the individual than training for society. They stress character training, scholarship, and formal mental training. In France, general culture and mental training are primary, while in Germany,

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[1] R. F. Seybolt, The Private School, *Source Studies in American Colonial Education, Bulletin* 28, Bureau of Educational Research, College of Education, University of Illinois, Urbana, Ill., 1925, 109 pp.

[2] W. H. Small, "Early New England Schools," p. 31, Ginn and Company, Boston, 1914.

[3] Quoted in Kandel, *op. cit.*, pp. 170–171.

German culture and service to the state are the chief aims. In Russia, the aims are definitely those for the good of society with secondary-school courses made as practical as possible. In the United States the aims are balanced between society and the individual as paramount. The most usual single aim given is that of citizenship, meaning preparation for life in a democracy.

The Aims of Secondary Education in France.—One aim of secondary education in France is to promote and preserve general culture, which serves at the same time as a *culture d'esprit* which has no exact English equivalent. The French also stress their national culture, which stands for "logic in thought and expression of principles in command of details, for the ability to reflect and reason."[1] Their chief emphasis is upon quality rather than quantity. They direct their education to the best possible training for an intellectual elite. The function of French secondary education is not to train the masses, but to select and train the elite, or the best intellects in France. The aims are achieved through the study of the classics, which give power to use abstract ideas, and in general studies, to cultivate judgment, taste, appreciation, and the ability to think clearly and logically. The study of foreign cultures is designed to give a better appreciation of French and to develop a command of their own language. According to *Instructions* on the secondary-school course:

> It is not the function of secondary education to prepare pupils who have a definite profession in mind, nor even to point them toward one or the other of the great intellectual routes in which the activities of man deploy themselves. It does something more and better; its task is, without preparing for anything specific, to make the pupils apt for everything.[2]

These aims reveal the faith of the French in the transfer of training. Importance is placed in high scholastic attainments in the classics in spite of the work and criticism of the modernists.

The Aims of Secondary Education in Germany.—In Germany, all schools are instruments of the state. The authorities of New Germany believe that the purpose of the secondary school is to educate the physically and mentally outstanding youths in a manner that will enable them to take an active part in the shaping of the political, cultural, and economic life of the nation. The subjects

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[1] Sidney B. Hull, Differences in French and American Secondary Education, *School Review*, **39** (May, 1931), pp. 372–382.

[2] Quoted in Kandel, *op. cit.*, p. 219.

TABLE 9

AIMS, OBJECTIVES, AND SOCIAL BACKGROUND OF THE LATIN GRAMMAR SCHOOL, ACADEMY, AND THE HIGH SCHOOL FOR VARIOUS PERIODS*

Period	School	Objectives	Social background
Colonization to the Revolution	Latin grammar	Ultimate: preparation for the the ministry Immediate. preparation for college	Stratified society Education in classics Boys from privileged classes destined for leadership Narrow field of human knowledge
Revolution to the Civil War	Academies	Ultimate: preparation for life Immediate: varied to fit each school Specific: preparation for a life activity: military training teacher training commercial training college-preparatory training "fitting and finishing"	Society still stratified, but no longer dominated by one class Increasingly complex society Growing importance of the middle class, and their increasing demands for an education
1820 to 1860	High schools	Ultimate: "complete living" Immediate: "eminence in his profession" Classical course prepared for college Aims generalized and vague	Flood of emmigrants from 1835 to 1850 Improving transportation and communication Rise of science as a subject of study
Civil War to 1900	High schools	Ultimate: preparation for life Immediate no marked agreement Generalized objectives show tendency to break up into specific ones Aims for each curriculum	Growth of democratic feeling and its demands for education of all children of all people Sharp rise in the high-school population
1912 to 1925	High schools	The analysis group Ultimate: successful living Immediate: varied with the point of view of the educator The project group Ultimate: "Life more abundantly" Immediate: in terms of health, citizenship, recreation, vocational efficiency, and moral adjustment	Democracy growing Increasing complexity of life All classes aspiring to full human opportunities Small institutions growing large Multiplying human interdependencies Increased specialization Great growth of vocational movement

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* L. A. Williams, *The Making of High School Curricula*, pp. 76–77, Ginn and Company, Boston, 1928.

must be taught to support Nazi doctrines of racial and national superiority. The *Gymnasium* may continue its linguistic-mathematical curriculum if it does not defy the Nazi veto of scientific inquiry in the field of biology, social science, and philosophy.

Every urban secondary-school student must give one year service to the farmers; during the university he must serve half a year in work camps, and all males and females must accept conscription for one year of military duty.[1] The schools are used as instruments of propaganda and for training leaders for the state. The German view is that a citizen has duties but no rights, and one of his chief duties is to serve the state.

Much of the educational philosophy of the past has been carried over to the present, especially in the insistence on a close relationship between education and the environment. The aims are toward the great national tasks set before both men and women, and, to prepare for these, great emphasis is placed upon activity and character rather than the imparting of a given amount of knowledge.[2]

Theodor Wilhelm warns against accepting isolated paragraphs from noneducational literature as an evaluation of Germany's educational system. Biology, he claims, is not one-sidedly pressed into the service of racial arrogance, but is to teach man's integration with nature, in the belief that all laws tend toward an unfathomable organic unity. Geography is meant to convey an understanding of history, culture, and philosophy of other nations in comparison with traits kindred or foreign to the German, but with a sense of mutual respect. He also claims that what appears militaristic, as the German love for marching and discipline, does not jeopardize her peace mindedness.[3]

On the other hand, the majority of all recent publicity given the German educational system indicates that the Nazis control all educational instrumentalities, that there is no place in their philosophy for individualism, and that the sole purpose is to mold youth to be warriors of the state. Political philosophy and educational theory are united. Purity of race and military right are the predominating ideals. Hitler has made of Germans, according to Kunzer, "a nation of anti-intellectual automatons, whose main purpose seems to be the will to destroy."[4]

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[1] P. W. L. Cox, Education in Europe, *National Education Association Journal*, **25** (April, 1936), pp. 115–116.

[2] Auguste Reber-Gruber, Die Erziehung des Mädchens in National-Socialistischen Deutschland (Women's Education in the New Germany), *International Education Review*, **6** (1938), pp. 430–446.

[3] Theodor Wilhelm, Scholars or Soldiers? *International Education Review*, **7** (1939), pp. 81–102.

[4] Edward J. Kunzer, Education under Hitler, *Journal of Educational Sociology*, **12** (November, 1939), pp. 129–147. See also Erika Mann, "School for Barbarians," Modern Age Books, New York, 1938, 159 pp.

Aims of Secondary Education in England.—Character is one of the general aims of the English secondary schools. Manners and morals are stressed in the entire system. Emphasis is placed upon training the individual, rather than an emphasis upon society. Training youth "to do the right thing in the right manner," whether in games, studies, or social relationships, is considered all important.

The aims are not specific, but general. Subjects are taught for their cultural and disciplinary values rather than vocational or practical. The mind is trained in a general manner in order to function in any capacity. The pupils are not pampered, humored, or given much freedom in the selection of subjects, but are trained as their teachers believe will best develop them.

Aims of Secondary Education in the U.S.S.R.—Before the Revolution of 1917, Russia was one of the most backward countries in Europe educationally. The great majority of the population were not in school, and the percentage of illiteracy was about 64. Of the population of about 150,000,000, only about 120,000 were enrolled in universities.[1] Workers and peasants were never permitted to attend secondary schools or universities. The schools were of many types operated by various government departments and the Church dominated many of the schools. The instruction was "adapted to the Tsarist regime, imbued with orthodoxy, worship of autocracy, and the 'Great Russian' chauvinism."[2]

One of the first aims of the Soviet Republics was to destroy the old schools and social order and establish a new system which would train workers and leaders to live in a new order. The specific aims were:

> The deepest, most dominating aim of the new education is to educate the children, so that collectively they may create a new world, in which each may live effectively, cooperatively, creatively—leaders and followers, in accordance with their abilities and the exigencies of the situation.
>
> The second dominant aim is to transform the existing adult population as quickly as possible into a really literate, politically intelligent people.
>
> The third aim is to develop and preserve the national culture as an essential to general culture.[3]

To accomplish these aims, new schools and a new system of schools were established which were a radical departure from the older ones. This brought about a unified system of coeducational schools for all bourgeoisie as well as gentry. No fees were to be charged, and compulsory education of seven years in urban and four years in rural schools was enforced. In order to liquidate illiteracy they established such schools and institutions as workers' and peasants' home, political and cultural clubs, reading rooms, libraries, self-education centers, short courses, communist universities, socialized museums, and theaters, and distributed educational literature over the nation. The task set called for teaching 18,200,000 illiterates. When the work was begun in 1927, the average percentage of illiteracy in rural and urban centers was 41.6 per cent and in 1932 it was reduced about 3 per cent in urban centers and about 12 per cent in rural centers.[1]

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[1] A. Pinkevitch, "Science and Education in the U.S.S.R.," p. 11. G. P. Putnam's Sons, New York, 1935.

[2] *Ibid.*, p. 17.

[3] Lucy W. Wilson, "The New Schools of New Russia," p. 34, Vanguard Press, Inc., New York, 1928.

Aims of Secondary Education in Italy.—Educational reforms in Italy which became effective in 1939 were designed to bring more closely together the school system and the physical, military, and political training of the National Fascist Party. The entire school system which extends from the ages of 4 to 21 is designed to prepare Fascist citizens. The entire curriculum which stresses academic instruction, labor service, and military training is based on Fascist ideals.[2]

Is the Purpose of Secondary Education for the Individual or for Society?—One of the fundamental principles on which democracy is based is that of individual personalities. Democracy is always concerned with the individual and his welfare; but this does not imply individualism to the extent that the rights of others are suppressed or that there is no social cooperation. Likewise, nationalism should not be carried to the place that the individual is merely a tool of the state, that he has no right, but many duties. To establish a proper balance between the common welfare and individual freedom is difficult. The common welfare should come first, but when individual freedom is destroyed to achieve it, its own purpose is destroyed. The aims of secondary education in a democracy are for both. Since society is composed of individuals, then teaching individuals to live in society advances and protects the common welfare.

As contrasted with the United States, in those countries in which there is extreme nationalism, as in Italy and Germany, the state and not the individual is paramount. Citizens are made according to government specifications, individuality is suppressed, and freedom of teaching ceases. In Italy, the aims of education expressed by the prime minister were: "The government demands that the school should be inspired by the ideals of Fascism." In Germany the minister of the interior laid down the principle that "The supreme task of the school is the education of youth for the service of the Nation and the state in a National-socialistic spirit."[1]

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[1] James F. Abel, Biennial Survey of Education, 1934–36, *U.S. Office of Education Bulletin* 2, 1937, Chap. VII, p. 15.

[2] I. L. Kandel, Education in Italy, *The Educational Forum*, 4 (January, 1940), pp. 206–213.

GENETIC DEVELOPMENT OF AIMS

In analyzing needs and activities of man in order to determine aims and objectives, one may analyze the individual as a personality or the activities and place of an individual in society. An analysis of the individual reveals three aspects: physical, moral, and mental. These three represent the three phases of training in order to develop a complete personality. They have been stated or implied in aims with relative shifting of emphasis for centuries. An exaggeration of the physical side leads to athleticism, of the moral to asceticism, and of the intellectual to scholasticism divorced from the realities of life.[2]

The Aims of Greek Educators.—Socrates' (469–396 B.C.) most characteristic doctrines were: (1) Virtue is knowledge and is teachable, and (2) the knowledge man needs is that of himself. Plato (427–347 B.C.), his follower, believed also that virtue is knowledge and that the exalted virtues, wisdom and justice, were not acquired by exercise, but by reflection. Plato believed that practical arts were not so valuable as a study of mathematics, music, and dialectic, which were accounted the noblest of human activities.[3] Both Plato and Isocrates (436–338) had the same practical aim—good citizenship, but each used a different route for achieving the aim. Isocrates was practical; Plato, theoretical. Isocrates believed in a practical training for life, called the school of rhetoric; while Plato's was philosophical.[4]

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[1] James F. Abel, A Survey of a Decennium of Education in Countries Other Than the United States, *U.S. Office of Education Bulletin* 2, 1937, p. 11.

[2] I. L. Kandel, "History of Secondary Education," p. 7, Houghton Mifflin Company, Boston, 1930.

[3] Frederick Eby and Charles F. Arrowood, "The Development of Modern Education," pp. 6–8, Prentice-Hall, Inc., New York, 1936.

[4] I. L. Kandel, "History of Secondary Education," pp. 14–20, Houghton Mifflin, Boston, 1930.

Both agreed upon a definition of liberal education, and with Aristotle that education should be used for complete living. The outcomes of liberal education should be judgment and good taste, self-control and modesty, ability to meet one's fellow men, and intellectual interests. According to Kandel, "after two thousand years the educational world is again seeking to make this ideal a living reality in the modern secondary school."[1]

The Greeks were more functional in their statement of aims by the time of Aristotle, for society had changed to the extent that he could analyze the individual in terms of his needs as a member of society. Aristotle (384–322 B.C.) emphasized complete living, defined culture to cover all the main activities of man, and based education on the ideal of individual happiness. According to him, the constituent parts of happiness are "nobility, the possession of many and excellent friends, wealth, a goodly and numerous family, and a happy old age; also such physical excellence as health, beauty, strength, stature, and athletic powers, and finally fame, honor, good fortune, and virtue."[2]

Aims of Roman Secondary Schools.—The Romans were influenced somewhat by the Greeks, but their ideals were mostly native in character. The Romans were more practical and realistic than the Greeks. The aim of higher education was preparation for a practical career, while culture for its own sake had no place in their educational philosophy until the latter part of the imperial period. Liberal education was defined in terms of practical needs, while narrow intellectual and moral training was emphasized. Physical training had the practical aim of fitness for military service rather than bodily grace or beauty, while aesthetic education was neglected. Cicero stressed and emphasized oratory as the best avenue for success in almost any profession or for preparation for public life or service. To prepare one to be an orator, all liberal arts must be studied. Toward the decline of the empire, liberal education became an end in itself, unrelated to life, while form and mechanics were stressed in a superficial manner.[3]

Aims of Secondary Education in Medieval Europe.—The schools of medieval Europe were influenced by the Greeks and Romans on the one hand and by Christianity on the other. The early Christians had little sympathy with pagan schools and believed that education was an essential function of the Christian home and church. The aims of their schools, which have changed only in emphasis, were concerned with morality, religion, knowledge of the scriptures, together with certain attitudes and doctrines to further the beliefs of various groups.[1] The cathedral schools and grammar schools in monasteries and churches were for the primary purpose of improving the scholarship of the clergy.

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[1] *Ibid.*, p. 20.

[2] *Ibid.*, p. 7.

[3] *Ibid.*, pp. 24*ff*.

Aims of Secondary Education during the Middle Ages.[2]—When the church of the Middle Ages recognized a need for educating ministers and church workers, it found a model in the traditional practices of the Roman Empire, which placed secondary education in the hands of and under the supervision of the state and its officials. The aims were to prepare "loyal followers of the faith"[3] devoted to the salvation of their own souls and to prepare Christian leaders. Although the monasteries played a part in conserving learning, mainly for their own novitiates, and in copying manuscripts, the cathedral schools were by far the most important. They furnished the link between the Roman grammar schools and schools of modern times. They had their origin in the practices begun by bishops of teaching small groups of students (from the ages of seven up) who lived in their households. The chief study was grammar as a preparation for Latin, which was needed in church as well as for a practical career. Charlemagne required grammar schools to be established in every monastery and cathedral church.[4]

The controversial nature of Christianity and the importance of preaching and argumentation made the survival of rhetoric easy. Many of the church fathers criticized rhetoric as such, and when their position and authority became more secure they became more vigorous in their criticisms of "heathen literature." The fact is that they were forced to some extent to follow the pagan models as a means of appealing to the intellectual classes. Augustine went so far as to say that ignorance and holiness were not synonymous, and that lack of culture was unbecoming in a student of the apostles. Furthermore he argued that rhetoric was needed as a weapon.[5]

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[1] Eby and Arrowood, *op. cit.*, pp. 14–15.

[2] I. L. Kandel, "History of Secondary Education," pp. 41–57, Houghton Mifflin Company, Boston, 1930.

[3] *Ibid.*, p. 44.

[4] *Ibid.*, pp. 63–75.

[5] Theodore J. Haarhoff, "Schools of Gaul," p. 151*ff.*, Oxford University Press, New York, 1920.

These schools kept learning alive, although as in the schools of the Greeks and Romans, subjects finally became ends in themselves. The curriculum was static and unchanging. Consequently, the school declined.

Influence of the Renaissance on Educational Aims.[1]—The Renaissance marks the division between the medieval and the modern world. No exact dates can be set for this period, but it is usually considered as about the fourteenth and fifteenth centuries. It was an intellectual awakening, a return to learning, which had its center in Italy. Old manuscripts of the Romans, and also of the Greeks, were sought and read. Thus Latin became all important, for it was needed to unlock the storehouse of learning. Latin was also needed by diplomats, secretaries, scholars, and men of affairs.

Abelson[2] in his "Seven Liberal Arts" points out the fact that the classical writers were read in western Europe during the Middle Ages and he cites cases to demonstrate that they were read widely. Grammar, rhetoric, logic, arithmetic, geometry, astronomy, and music all flourished to some extent during the Middle Ages. Some of these arts schools gradually developed into universities and they expanded the curriculum to include such subjects as law, medicine, and theology as well as the liberal arts. Often the development was stimulated by the receipt of special favors from the governmental authorities, and sometimes by the presence of famous teachers such as Irnerius at Bologna, or Abélard at Paris.[3]

The chief requirement for entering the universities was a knowledge of Latin and this stimulated the growth of lower schools. The Latin grammar schools, cathedral, monastic, collegiate, and guild schools increased in number in order to prepare boys for attending the universities.

Latin became so universal that innkeepers used it, and beggars even asked for alms through the medium of that language. Students were at home in any country since Latin was the universal language of universities and scholars. New secondary schools were started in the fifteenth century in Italy, England, and Germany. In Italy they were started as private schools by such men as Vittorino da Feltre, but as a type they were short lived. In Germany they were established by action of separate states, and in England through action of philanthropic groups and by individuals. With the rise of chivalry, schools were established in palaces of noblemen, where instruction was given in the duties of being warriors, rulers, and diplomats. This instruction was called "chivalric," or "courtly" education.[1] Although the clergy monopolized the cathedral schools and universities, burgh schools or Latin grammar schools were established under municipal auspices. The church leaders resisted this trend for they believed education was a church, and not a state function. It was many centuries before state systems of education developed free from parochial control.

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[1] Eby and Arrowood," *op. cit.*, p. 17.

[2] Paul Abelson, "Seven Liberal Arts: Study in Medieval Culture," pp. 1–100, Teachers College, Columbia University, New York, 1906.

[3] S. S. Laurie, "The Rise of Early Constitution of Universities," Chaps. VIII, IX. D. Appleton-Century Company, Inc., New York, 1907.

Educationally, the chief change caused in secondary schools and colleges by the Renaissance was the emphasis placed upon Greek and Latin. Manuscripts of earlier writers were written in Latin and Greek which were the most highly developed languages of the period. Although the schools, for the most part, were dominated by the Church which caused emphasis to be placed on moral training and piety, much stress was placed on the classics, such as Terence, Virgil, Ovid, Caesar, and Cicero, because they dealt with human problems and creations. This gave rise to the name of "humanists" to those who studied them, and the term "humanities" became synonymous with Latin. Latin was a practical, not a cultural subject at that time, for it furnished a means for studying doctrines and for translating the scripture; but by the end of the sixteenth century the means became an end in itself, that is, the ability to express one's self clearly and forcibly in Latin became primary.[2] Emphasis was placed on grammar as a foundation for Latin. It was also an important college preparatory subject, since most of the instruction in colleges was through the medium of Latin. Greek, formerly taught in order to interpret the New Testament, had lost much of its influence, but was still the only great contester of Latin in secondary schools of the sixteenth century.

EDUCATIONAL AIMS OF OUTSTANDING EDUCATORS AND COMMISSIONS

The statements of educational aims of educators do two things: (1) they give expression to the goals of society not clearly formulated otherwise, and (2) they establish new goals of schools.

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[1] Eby and Arrowood, *op. cit.*, p. 22.

[2] I. L. Kandel, "History of Secondary Education," p. 87, Houghton Mifflin Company, Boston, 1930.

Usually they are composites of both and the statements dare not get too far in advance of society or they will not be accepted. An excellent example of this is found in the aims of Benjamin Franklin's academy in 1751 in which his aims were so liberal and far ahead of his times they were not executed.

John Amos Comenius (1592–1670).—Comenius placed emphasis upon usefulness and practicalness, for he believed that everything is placed here for a purpose. In "The Great Didactic" (1657), Comenius sums up his idea of an educated person: "Become learned in the sciences, pure in morals, trained in piety, and in this manner instructed in all things necessary for the present and for the future life."[1] His idea was to teach for life, not for school, so one could be trusted with the duties of life.

Francis Bacon (1561–1626).—Bacon placed more emphasis upon words than things. According to him the functions of natural philosophy were to raise and refine the standards of living, to enrich pupils' minds, and to teach them to live happily together.[2]

John Locke (1632–1704).—John Locke placed his greatest emphasis upon moral training, produced through self-denial; physical training through hardships; and mental training through mathematics and languages. He placed learning after virtue, wisdom, and breeding.[3] His prescription, which was partly misinterpreted in the past, furthered the formal discipline method of teaching.

Jean Jacques Rousseau (1712–1778).—During Rousseau's time it was assumed that the interests of society should be placed above those of the individual. Rousseau took opposition to this. According to him, institutions and various work were made for man's benefit; man was not made just to serve them.[4] Man should revert more to nature, be more of an individualist rather than be suppressed by society. Rousseau advocated teaching for present needs of pupils rather than future, a time which the pupil may never reach,[5] and that youth should be educated for a changing environment. He opposed an education for a definite vocation, and plead for a generous, liberal cultivation of the natural endowments of a child. His fundamental aim was to preserve the natural goodness of the human heart, and a form of society in harmony with them. If not the originator, Rousseau was a proponent of the old idea that adolescence is the age of reason and that it emerges at puberty. Before this time, he claimed, one should not try to use reason.[1] He also believed one should be taught how to acquire knowledge when necessary, rather than be taught knowledge directly.

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[1] Quoted by Eby and Arrowood, *op. cit.*, p. 282.

[2] *Ibid.*, p. 220.

[3] Frank P. Graves, "A History of Education," pp. 307–308, The Macmillan Company, New York,

[4] Eby and Arrowood, *op. cit.*, p. 469.

[5] *Ibid.*, pp. 474–475.

Benjamin Franklin (1706–1790).—The curriculum proposed by Franklin for his academy in 1751 was broad for it was to include everything "most useful and most ornamental." An analysis of his curriculum reveals that he placed emphasis upon a study of English, considered vocational training important, and mentioned health as an objective of science. It was Franklin's idea that youth be instructed in *true merit,* or an inclination to serve mankind, one's country, friends, and family, and that this ability could be acquired through *true learning,* which is the great aim and end of all learning.[2]

Johann Freidrich Herbart (1776–1841).—The chief aim of education according to Herbart is morality, meaning good character, and social adjustment.[3] As contrasted with Rousseau, Herbart believed that a good teacher would anticipate and teach the future aims of an individual. Youth should be given the broadest possible training with varied experiences, so he would develop "many-sidedness of interests." These two aims, moral character and many-sidedness of interests form the complete objectives of education, for the latter will assure wise moral and vocational choices. These may be subdivided into the development of insight, instilling proper interests and desires, imparting inner control, giving a child a chance to see life in all its phases, and maturing his judgment.

Herbert Spencer (1820–1903).—Spencer was one of the first educators to express aims in the form of activities derived through an analysis of human life. This type of approach is more functional, in that it furnishes a basis for the selection of educational activities. His analysis of activities which were selected to prepare one for complete living were:

1. Self preservation.
2. Vocations.
3. Rearing and disciplining children.

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[1] Quoted by Eby and Arrowood, *op. cit.*, p. 499.

[2] I. L. Kandel, "History of Secondary Education," p. 172, Houghton Mifflin Company, Boston, 1930.

[3] *Ibid.*, p. 761*ff.*

4. Maintaining proper social and political relations.
5. Leisure and the qualification of tastes and feelings.[1]

Spencer's aims were important for their influence on education in both England and the United States. Up to the time of Spencer's analysis of objectives, the aims of secondary education were generalized and vague, affording little or no basis for what the school's purpose was. Such a general statement as "preparation for life" is almost meaningless, for it does not indicate what kind of life, or what constitutes complete living.

Inglis's Objectives (1918).—Inglis formulated three objectives for secondary education from an analysis of the activities required of each individual. The three are:

1. The Social-Civic Aim, or the preparation of the individual as a prospective citizen and cooperating member of society.
2. The Economic-Vocational Aim, or the preparation of the individual as a prospective worker and producer.
3. The Individualistic-Avocational Aim, or the preparation of the individual for those activities which, while primarily involving individual action, the utilization of leisure, and the development of personality, are of great importance to society.[2]

Taken together, these three aims constitute the social aim of secondary education in the broadest sense of the term. Every individual as a social unit is at the same time a citizen, a worker, and a relatively independent personality.

Committee of the North Central Association.—A committee appointed by the North Central Association of Colleges and Secondary Schools, presented in their report, the following aims of secondary education:[3]

1. To maintain health and physical fitness.
2. To use leisure time in right ways.
3. To engage successfully in vocational activities.
4. To sustain successfully certain definite relationships such as domestic, community, civic, and the like.

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[1] Herbert Spencer, "Education," p. 32, D. Appleton-Century Company, Inc., New York, 1883.

[2] Alexander Inglis, *Principles of Secondary Education*, p. 368*ff*., Houghton Mifflin Company, Boston, 1918.

[3] Report on Standards for Reorganization of Secondary School Curricula, 1924, North Central Association of College and Secondary Schools, March, 1924.

The last objective contains those usually designated as citizenship and worthy home membership, while ethical character is implied in all of them, for one cannot use leisure time correctly, or sustain correct relationships without certain moral and ethical standards.

Franklin Bobbitt's Objectives (1926).—According to Bobbitt, the objectives of education are all the activities which ought to make up the totality of human life from birth to death.[1] Two years earlier (1924), Bobbitt wrote that "education is to prepare men and women for the activities of every kind which make up, or which ought to make up, well-rounded adult life; that it has no other purpose,"[2] and that "Education is primarily for adult life, not for child life. Its fundamental responsibility is to prepare for the fifty years of adulthood, not for the twenty years of childhood and youth."[3]

The latter statement is contrary to modern views and contrasts markedly with the idea of Rousseau that education should be for the present. Many today insist that if present needs, interests, and abilities are cared for, most of the future will automatically be cared for.

The activities of life, forming the major objectives of education, prepared by Bobbitt are:[4]

1. Language activities; social intercommunication.
2. Health activities.
3. Citizenship activities.
4. General social activities—meeting and mingling with others.
5. Spare time activities, amusements, and recreation.
6. Keeping one's self mentally fit—analogous to the health activities for keeping one's self physically fit.
7. Religious activities.
8. Parental activities, the upbringing of children, the maintenance of a proper home life.
9. Unspecialized or nonvocational practical activities.
10. The labors of one's calling.

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[1] Franklin Bobbitt and others, "Curriculum Investigations," Supplementary Educational Monograph, 31, p. 4, The University of Chicago Press, Chicago, 1926.

[2] Franklin Bobbitt, "How to Make a Curriculum," p. 7, Houghton Mifflin Company, Boston, 1924.

[3] *Ibid.*, p. 8.

[4] *Ibid.*, pp. 8–9.

Koos's Aims (1927).—Koos formulated four aims of secondary education based on an analysis of purposes proposed by 25 leaders and groups of leaders in the field. The aims were designated as:[1]

1. The civic-social-moral responsibility.
2. Physical efficiency.
3. Recreational and aesthetic participation and appreciation.
4. Occupational efficiency.

Analysis by Touton and Others (1927).—Touton, in collaboration with graduate students, stated the aims of secondary schools in terms of the activities in which pupils should be directed, for the purpose of:[2]

1. Developing physical fitness.
2. Applying fundamental processes to scientific and social phenomena.
3. Discovering interests and aptitudes.
4. Using native capacities to the maximum.
5. Preparing for economic independence and advanced training.
6. Participating in diversified aesthetic and recreational activities.
7. Evolving high standards of conduct in personal and group life.
8. Contributing to worthy home life.

One of the unique features of this list is the combining of objectives with functions, as "using native capacities to the maximum," or "discovering interests and aptitudes." These are usually mentioned as the exploratory, adjustive, differentiating, individualizing, guiding, directive, and propaedeutic functions.

Although not implying that it was the only aim of education, Briggs gives as one of the primary aims of secondary education that of preserving the state. The four ways mentioned by him for perpetuating the state are: war, police force, social pressure, and education. Of these four methods it may be safely maintained that no other agency has done as much as formal schools.[3]

An aim which not only implies that democracy should be preserved, but which goes farther to state that it should be aided by the schools in its progress, was given by Douglass as the unique purpose of free schools: "The unique purpose of free schools is the education of a citizenry to enable our democratic society to progress and solve intelligently its social, economic, and political problems."[1]

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[1] Leonard V. Koos, "The American Secondary School," pp. 150–170, Ginn and Company, 1927.

[2] Frank C. Touton, The Role of Objectives in Secondary Education, *The California Quarterly of Secondary Education*, 2 (January, 1927), pp. 168–180.

[3] Thomas H. Briggs, "The Great Investment," pp. 17, 22, Harvard University Press, Cambridge, Mass., 1930.

Lindeman summarizes all aims of education in one phrase. He claims that education does not need any diverse goals, for there is but one "supreme and constant goal which may be appropriately joined to the word education, namely, the *harmonious development of personality*. Others are subsidiary and live only a short time."[2]

Cardinal Principles of Secondary Education (1918).—Although many other leaders in secondary education have formulated aims, all show a great amount of similarity. The most comprehensive, functional, and influential formulation of objectives was that of the Commission on the Reorganization of Secondary Education, appointed by the National Education Association. The committee determined the main objectives from an analysis of the activities of the individual just as was done by Spencer, Bobbitt, and Inglis. The seven objectives are:[3]

1. Health.
2. Command of fundamental processes.
3. Vocation.
4. Worthy home membership.
5. Citizenship.
6. Worthy use of leisure.
7. Ethical character.

Health.—Social as well as personal efficiency depends upon health, so health needs should not be neglected in the secondary school. The school can teach certain facts about health, help pupils form good health habits, and build attitudes which will promote health. The aim should not be attacked as an isolated unit or as an abstraction, but in relation to other aims and through the medium of all subjects of the curriculum. All courses may make some contribution, however slight.

Command of Fundamental Processes.—Command of fundamental processes usually refers to basic skills in reading, writing, and arithmetic. These have been taught in the elementary school, but have been acquired in varying degrees by pupils who enter the high school. The proficiency acquired should be retained by suitable exercises and use, and deficiencies should be noted and remedial treatment given. All pupils should have increased their skill in English and arithmetic during their high-school years.

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[1] Harl R. Douglass, Can We Re-vamp the High School Curriculum to Fit the Needs of Today? *Baltimore Bulletin of Education,* **14** (September and October, 1936), pp. 49–57.

[2] Eduard C. Lindeman, The Goal of American Education, in "Democracy's Challenge to Education," p. 19, ed. by Beulah Amidon, Farrar & Rinehart, Inc., New York, 1940.

[3] Cardinal Principles of Secondary Education, *U.S. Bureau of Education Bulletin* 35, 1918, pp. 10*ff.*

Worthy Home Membership.—An understanding of the importance of the home as a social institution, and one's place and duties in it, is embodied in the aim of worthy home membership. This aim should be taught incidentally, although the outcomes should be primary. Teaching one in school to be a better member of a home involves a transfer of training, for one cannot make the school like the home. It is not even desirable to do so. School life is as worthy as home life, and one learns to be a member of one through participation in the other because of common elements between them. Certainly there are many activities provided in school which are similar to those in which one engages in the home, as leisure-type reading; but, at the same time, many activities of the school cannot be carried over to the home, as certain athletic games and sports, requiring equipment, laboratory work, and large group work. Even the home-economics kitchens are not identical with those in the home, although they are comparable.

Vocational Efficiency.—Everyone at some time in life is responsible for his own welfare and usually for that of others. This means that each person in society should gain proficiency in some vocation, which makes vocational proficiency a social aim. It became an educational aim when accepted by the schools, for they can make a good contribution to vocational training, and also because educators felt it was no longer being cared for by some other agency. The multitude of different occupations, the period of training required for them, and the changing society which requires adaptation have caused more emphasis to be placed on vocational training. The increased school population and the urbanization of the population caused a demand for high-school graduates who were more specifically prepared for a vocation. This aim can be overemphasized, for too much time can be devoted to vocational work, at the neglect of the other aims. Perhaps not more than five or six units, at the most, should be devoted to vocational training, and this should be more for getting a basis for vocational work than training in specific fields. The fundamentals of arithmetic and English, health, and ethical character are basic to any vocation, while courses in business education, agriculture, home economics, and industrial arts have value in many fields. Because of limited time and facilities and the large task of the high school, specific vocational training to the point of a high degree of proficiency is neither possible nor desirable. It would force the selection of a vocation at an early age without sufficient time to explore aptitudes, and, furthermore, one cannot predict accurately what vocational training is most needed because of a changing economic world. The chief functioning of this aim is to help each pupil explore his own aptitudes, become acquainted with the world of work so he can make a wise vocational choice, and have sufficient background to begin pursuing it.

Citizenship.—The committee which formulated the cardinal principles made the following comment concerning civic education:

> Civic education should develop in the individual those qualities whereby he will act well his part as a member of neighborhood, town, city, State, and nation, and give him a basis for understanding international problems.
>
> For such citizenship the following are essential: A many-sided interest in the welfare of the communities to which one belongs; loyalty to ideals of civic righteousness; practical knowledge of social agencies and institutions; good judgment as to means and methods that will promote one social end without defeating others; and as putting all these into effect, habits of cordial cooperation in social undertakings.[1]

All school subjects and all aims help foster good citizenship. It is difficult to teach it directly, although in many places pupils are required to salute the flag and pledge allegiance to the United States of America. A daily repetition of this is likely to become a routine with little thought and meaning attached. Patriotism must not be confused with citizenship, although it is a desirable trait. It is doubtful if patriotism can be taught in any direct manner. Flag saluting, oath-of-allegiance repetition, or a study of our constitution will not produce citizens with a real loyalty. Patriotism comes only through activities and experience.

Worthy Use of Leisure.—Increasingly, training in the worthy use of leisure time is becoming more important. The working day is shorter, child labor has diminished, urbanization has removed many of the chores of the home which formerly occupied youth's time, while commercialized amusements have made a wise selection of leisure-time activities more difficult. The school has the task of teaching pupils in one situation, how to fill their leisure hours in another. Leisure activities should be recreational, healthful, and if possible, educational. Pupils should be taught to utilize the common means at their disposal in their own homes and communities for leisure pursuits, as found in sports, games, literature, art, music, and science. School activities should be selected with this idea in mind.

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[1] Cardinal Principles of Secondary Education, *op. cit.*, p. 13.

Ethical Character.—Practically every secondary school for two thousand years has had ethical character, or some similar goal, as an objective. It is no less important now than it was, and perhaps it is more important since there are more leisure hours. Crime and delinquency have revealed that youth who are incapable of directing their own conducts are a menace to society. This aim should be taught indirectly, and practically every school subject can make a contribution to it. It is comparable to good sportsmanship and fair play in athletics; honesty in all school work; respect for property, law, order, and authority; and an attitude of reverence for a supreme being. Ethical character is not synonomous with religion, or knowledge of the Bible. In public schools, religion and denominationalism are not permitted to be taught. In some states, as Arkansas and Pennsylvania, the Bible is required to be read without comment. This is a direct method of teaching ethical character and although it does no harm and increases one's knowledge of the Bible, it is doubtful if it is an effective method of meeting this aim.

In dealing with these objectives a distinction should be made between *ideal* objectives and *activity* objectives. For example, good citizenship may be analyzed into the ideal of a good citizen and the activities of a good citizen. It is the latter with which one deals in selecting the activities to meet the objectives.[1] The difference is similar to that of a definition and a description. A definition of an ideal citizen might furnish one a goal or standard toward which to work, but a description would involve an analysis of his activities, duties, and responsibilities. The latter only can furnish a working basis for building a school curriculum to achieve the objective.

Summary.—In the present chapter an attempt was made to answer the question "Why do the people of the United States desire a secondary education?" The answers to this question were given first from the standpoint of the layman who is not able to carefully analyze the needs of society and the role of the school, and who gives incidental or false reasons for supporting the high school. When expressed in the language of educators of a former time, aims often become vague, indefinite, and impractical. In the last century, aims have been stated in a more functional manner, due to a different approach in determining what society wanted, namely, an analysis of the individual and his activities.

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[1] See W. W. Charters, "Curriculum Construction," pp. 52–53, The Macmillan Company, New York, 1923.

In the next chapter the questions will be partly answered: How does the high school serve the community? or What is the value of a secondary education? How does the school attack community problems? and What is the function of the high school together with other educational agencies in the educational process?

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CHAPTER III

SERVICES PERFORMED BY THE SECONDARY SCHOOL FOR THE COMMUNITY

The general aims of secondary education presented in Chap. II are the ultimate goals the school desires to attain. The activities provided for pupils and the services performed by the school are methods of attaining these goals. The general aims of various schools at the present time or at different times will remain relatively constant, but the methods of achieving them will vary.

The people of the United States want secondary schools because of the services they perform. These are often spoken of as the functions of the school. These may also be considered as secondary or concomitant aims, for while the school is primarily concerned with the attainment of the primary purposes, others will be achieved incidentally.

Inglis groups all of the functions of the school under six categories.[1]

1. Adjustive or adaptive.
2. Integrating.
3. Differentiating.
4. Propaedeutic.
5. Selective.
6. Diagnostic and directive.

Adaptive Function.—The adjustive or adaptive function means making one acquainted with, and giving him an understanding of his environment, and at the same time, the ability to adapt himself to a new or changing environment. The immediate objectives have been classified as controls of conduct on the basis of whether they are generalized, fixed, or adaptive;[2] but all of these types of outcomes are needed for flexibility:

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[1] Alexander Inglis, "Principles of Secondary Education," pp. 375*ff.*, Houghton Mifflin Company, Boston, 1918.

[2] William L. Wrinkle and Winfield D. Armentrout, "Directed Observation and Teaching in Secondary Schools," p. 90, The Macmillan Company, New York, 1935.

1. Adaptive controls of conduct:
    - *a.* Facts and knowledge.
    - *b.* Concepts and percepts.
    - *c.* Generalizations, rules and principles.
2. Fixed controls of conduct:
    - *a.* Fixed associations.
    - *b.* Motor skills.
    - *c.* Techniques.
3. Generalized controls of conduct:
    - *a.* Attitudes, or points of view.
    - *b.* Ideals.
    - *c.* Appreciations.
    - *d.* Respect.
    - *e.* Interest.

Integrating Function.—The integrating function is to create a certain amount of like-mindedness. It might be called the democratizing function, for it aims to bring about a unity of thought and action in civic problems and activities, dispel class distinctions, and inculcate in each person common ideals of democracy. Integration, though the opposite of individualization, is supplementary rather antagonistic to it. Integration should come first and should be stressed more than differentiation in the elementary school, for if making people unlike were stressed first, a nation of individualists would be created making it impossible to maintain our present social order and form of government.

The school is only one agency which helps to integrate. Reading common books, magazines, and newspapers; hearing the same radio programs; seeing the same moving pictures; national advertising and purchasing of common articles of apparel, food, and household equipment, all foster like-mindedness. The schools accomplish this by means of a common core curriculum which all pupils study, by the use of common textbooks or those which are almost identical, and through common literature, art, music, activities, and contact with teachers who have had a common pattern of training.

Often, the method used to integrate pupils is called indoctrination by the use of propaganda. A certain amount of indoctrination is justified. If it is necessary for the good of society or the individual himself, in order to preserve our institutions, social order, promote health and safety, or preserve our present form of government, then it is justified. Propaganda differs from education in that the former makes a selection of facts to create a false impression, or omits certain truths, or presents only one side of an issue.

It is also used by small groups to force their point of view.[1] The whole truth must be learned piecemeal, and as pupils progress through our public schools they learn more and more facts concerning their social order which causes a constant modification of their concepts and attitudes.

Differentiation Function.—If the integrating function were carried to an extreme, a nation of conformists who had no ability to do independent thinking would be created. This might result in an unchanging social order dominated by a few. Thus the differentiating function is just as important in a democracy as the integrating, in order that progress might result. The integrating function might be likened to the keel of a ship which maintains its balance; the differentiating to the sails which give it motion.

Propaedeutic Function.—The propaedeutic function refers to the college preparatory function in that while the high school is meeting its legitimate objectives it is concomitantly preparing pupils for advanced study in colleges and universities. As shown in Chap. VI, one course, or pattern of courses, with the possible exception of mathematics, performs this function no better than others. Although a concomitant outcome, it should be given special consideration for those who are, in all probability, intending to go to college.

Guidance and Exploration.—To select those who will continue their education, and those who will follow various paths in life, is closely related to the diagnostic and directive functions. It is the responsibility of the school to explore the capacities, abilities, interests, and special needs of all pupils, and direct them toward worthy goals. It is often mentioned that one of the unique purposes of the junior high school is that of exploration; but just because it is practiced there, is not a good reason for not giving pupils a chance to explore during the entire secondary-school period.

Brigg's Statement of Functions.[2]—Perhaps the most widely discussed and most comprehensive list of functions of secondary education are those formulated by Briggs. These were selected as a basis for group discussions by the Committee on Orientation of the Department of Secondary-school Principals of the National Educational Association, in 1937.[1] The functions are:

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[1] See "The Unique Functions of Education in American Democracy," pp. 99–100, Educational Policies Commission, National Education Association, Washington, D.C., 1937.

[2] Thomas H. Briggs, "Secondary Education," pp. 252–288, The Macmillan Company, New York, 1935.

1. *Integration.*—To continue by a definite program, though in a diminishing degree, the integration of students. This should be on an increasingly intellectual level until the desired common knowledge, appreciations, ideals, attitudes, and practices are firmly fixed.
2. *Satisfaction of Needs.*—To satisfy the important immediate and probable future needs of the students insofar as the maturity of the learner permits, guiding the behavior of youth in the light of increasingly remote, but always clearly perceived and appreciated, social and personal values.
3. *Revelation of the Racial Heritage.*—To reveal higher activities of an increasingly differentiated type in the major fields of the racial heritage of experience and culture, their significant values for social living, the problems in them of contemporary life, the privileges and duties of each person as an individual and so as a member of social groups; to make these fields satisfying and desired by those gifted for successful achievement and to give information as to requirements for success in these fields and information as to whether further training may be secured.
4. *Exploration of Interests, Aptitudes, and Capacities.*—To explore higher and increasingly specialized interests, aptitudes, and capacities of students, looking toward the direction of them into avenues of study and work for which they have manifested peculiar fitness.
5. *Systematization and Application of Knowledge.*—To systematize knowledge previously acquired or being acquired in courses in such ways as to show the significance both of this knowledge and especially of law and principles, with understanding of wider ranges of application than would be otherwise preceived.
6. *Establishment and Direction of Interests.*—To establish and to develop interests in the major fields of human activity as means to happiness, to social progress, and to continued growth.
7. *Guidance.*—To guide students on the basis of exploratory and revealing courses and of other information gathered from personnel studies, as wisely as possible into wholesome and worth-while social relationships, maximum personality adjustment, and advanced study or vocations in which they are most likely to be successful and happy.
8. *Differentiation.*—To use in all courses as largely as possible methods that demand independent thought, involve the elementary principles of research, and provide intelligent and somewhat self-directed practice, individual and cooperative, in the appropriate desirable activities of the educated person.

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[1] Functions of Secondary Education, *Department of Secondary School Principals Bulletin* 64, Washington, D.C., January, 1937.

9. *Methods of Teaching and of Learning.*—To begin and gradually to increase differentiated education on the evidence of capacities, aptitudes, and interests demonstrated in earlier years. Care must be taken to provide previous to and along with differentiation as balanced and extended a general education as is possible and profitable.

10. *Retention and Direction of Pupils.*—To retain each student until the law of diminishing returns begins to operate, or until he is ready for more independent study in a higher institution; and when it is manifest that he cannot or will not materially profit from further study of what can be offered, to eliminate him promptly, if possible directing him into some other school or into work for which he seems most fit.

The Democratizing Function.—One of the functions often advanced for the secondary school is that of democratizing youth. There are two points of view in this. One is that of dispelling class distinction, and giving a common culture. The other is that of including ideals of democracy in order to perpetuate our present government. Both are legitimate functions of the secondary school, although the latter has been questioned, on the grounds that the orientation of the school with respect to democracy has been waning for many years. There are many who believe it should be taught because they fear for the safety of democracy, and assume that education is for democracy, or that the basic goal of education is democracy. In reality, "education of the highest type *is* democracy because individual development or growth can only take place in a free society, that is, a society in which the choices of an individual count for something."[1]

To teach democracy is a form of propaganda which is contrary to the spirit and ideals of democracy itself. If the school is operated on democratic principles, and the pupils live a democratic school life, ideals of democracy will be attained without any attempt to teach them. Democracy is opposed to indoctrination, force, or the shielding of the truth. It fosters comparisons, criticisms, and the "free spirit of science."

The Education Policies Commission.—The nature of education, its obligations to society, and its unique functions in American democracy were contained in the report of the Educational Policies Commission of the National Education Association. Briefly stated, these were:

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[1] Eduard C. Lindeman, in "Democracy's Challenge to Education," p. 21, ed. by Beulah Amidon, Farrar & Rinehart, Inc., New York, 1940.

1. The program of education is never complete.
2. It grows with the growth of humanity.
3. Its source is life, not merely books and laws.
4. Education embraces knowledge, training, and aspiration: knowledge of the practical, social, and fine arts, and of the funded wisdom and aspiration of the race.
5. Knowledge alone is not enough—ethics is indispensable.
6. Education includes the training of body and spirit.
7. Education is committed to the maintenance and improvement of society, which is democratic, repudiates government by sheer force, nourishes the free spirit of science, and rests on ideals, institutions, and economy.
8. Education now lays emphasis on its social obligations. It must serve an associational economy, and prepare youth for associational life and activities. It must prepare citizens for participation in associational government and must aid in upholding social values.
9. Education now confronts new functions in connection with unemployed youth.
10. It faces new responsibility for the education of adults.[1]

These statements of the peculiar functions and obligations of the secondary school to society do not describe how these purposes are to be accomplished. To say merely that the high school is an integrating, differentiating, democratizing agency, etc., or that it is "committed to the maintenance and improvement of society" is not sufficient, for these statements are still too broad to be functional. The following section will attempt to show how these obligations are accomplished by the secondary school by citing examples of how it attacks community problems.

HOW THE SECONDARY SCHOOL ATTACKS COMMUNITY PROBLEMS

As mentioned in the previous chapter, as the needs of society grew, and as civilization became more and more complex, the institution of secondary schools developed to meet these needs. Many of these needs could have been achieved by other experiences. But they could not have been so efficiently and effectively achieved by informal educational agencies as they could through the secondary school.

Society could exist without secondary education for the masses; but it would not have attained its present state without it, nor would advancement be very rapid toward the American way of life. For centuries man lived without such modern conveniences as the radio, telephone, automobile, and without the knowledge now possessed by scientists. Now that we have them, no one would argue seriously that they be abolished merely because we can and have lived without them. Once experienced, modern conveniences become a necessity.

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[1] "The Unique Functions of Education in American Democracy," pp. 71–100, Educational Policies Commission, National Education Association, Washington, D.C., 1937.

This is true of secondary education. The services performed by the secondary schools are as essential and as valuable as those performed by professional men or modern machines. Medical doctors improve the health of the people, prolong life, and ameliorate suffering; lawyers insure justice; ministers promote ethical character; engineers build machines and buildings, while machines aid in transportation, communication, and in securing the necessities and luxuries of life. Likewise, the secondary school, as an institution, renders a service to society and attacks community problems. What are the services performed by the high school, and how does it attack community problems?

These services were implied in the aims presented in Chap. II, but the services performed may be considered further by citing specific cases. The experiences provided by the secondary school for each individual are selected on the basis of the aims to be achieved and the services to be performed.

Health and Sanitation.—One of the primary problems of any community, county, or state is that of promoting the general health of the people. To accomplish this, medical doctors, nurses, dentists, and health officers are trained, partly or wholly, at public expense. Hospitals are established either as a state, municipal, or private enterprise; state and local laws are passed regulating the production and distribution of food and milk, while engineers are employed to supply communities with an adequate supply of pure water and dispose of sewage. What is the work of the secondary school with respect to health?

This problem is attacked from two points of view, by aiding the individual to maintain personal health, and by preparing him to participate in and appreciate the efforts of society as a whole in promoting health and sanitation.

The first is accomplished through courses of study in science and physical education in which certain laws and principles are presented concerning personal hygiene, the spread of disease, and maintaining physical efficiency.

Experiences designed for the benefit of society as a whole, presented mainly in the social studies, are designed to develop attitudes of civic responsibility and knowledge of how society has cooperated to improve sanitation and health. Quarantine for various diseases would be ineffective if they were not respected; pasteurized milk would not be purchased if its values were not appreciated; law enforcement would be ineffective in requiring vaccination if its values were unknown, while community officials would not be concerned over such problems as securing a pure water supply, pure food, sewage disposal, garbage disposal, and general city cleanliness if they were ignorant of the effects upon health or the spread of diseases. The secondary school performs its service by preparing persons to solve these problems, and to cooperate with others in promoting the general welfare. It is only a matter of a few years after finishing high school until the graduates are modifying community life either by occupying public offices or holding leadership positions.

Often the influence of the school is immediate either through a direct attack on the problem by the school or by the education of adults by their children who are enrolled in school. Many high schools have initiated "cleanup campaigns," or have through the medium of posters, displays, dramatization, essays, or their school paper exerted a direct influence on the community with respect to problems of garbage disposal, eradicating flies, quarantine, cleaning up vacant lots, draining swamps to prevent mosquitoes, or having the wells and other sources of water supply tested. It is not uncommon for high-school pupils to relate to their parents the experiences they have had in school and either inform them of proper procedures or persuade them to change their practices. The textbooks of the schools go into every home of the community and parents often read them because they are interested, and want to be informed, or to keep up with their children or help them in their schoolwork.

It is impossible to demonstrate definitely the extent of such influences. Formal investigations are difficult to make for many factors cannot be controlled nor the specific influence of the school disassociated from that of other educational agencies as the radio, newspapers, magazines, or the cinema. The values of the high school, however, are not wholly implied or speculative. Practically every teacher has or could have observed examples similar to those just cited.

Elevating the Standards of Home Life.—High-school pupils are also members of and live in homes. Training received in both institutions helps one in the other. The school has been called an extension of the home, for it has accepted many responsibilities formerly cared for in the home. Although much of the school curriculum is based upon future needs, the modern tendency is to provide as many desirable activities as possible which care for present needs. The school should reflect the life of the home and community. The home provides an opportunity for pupils to utilize the products of school learning. Activities which have carry-over value into the home and which raise the standards of home life may be grouped under such headings as home life, beautification, lighting, recreational leisure time, and educational activities.

The shift from rural to urban centers of a large part of the population introduced the problem of providing suitable leisure-time activities to replace the many chores for youth on farms. If the home does not become the center of social and leisure-time activities, youth will soon seek diversion on the streets, in public loafing places, or frequent commercialized amusements. The high schools are aiding in the solution of this problem by teaching pupils many useful skills which may be employed in the home and activities with which to occupy leisure time in a profitable manner.

Courses in home and industrial arts are aimed primarily for more worthy home membership. Cooking, sewing, interior decorating, the selection and care of furniture as well as elementary skills in painting, plumbing, and electric wiring are a part of the school curriculum which may be utilized in the home. Many activities from these courses may be pursued also as hobbies.

Practically all courses contribute to leisure-time pursuits, such as reading and writing from English courses, games and sports from physical education, knowledge of electricity from science, as well as music, painting, drawing, and crafts from other courses.

A project undertaken in one high school concerning proper home lighting was so effective that it influenced the entire community. As a culminating activity of a unit on lighting in a science class, a general assembly program was prepared demonstrating efficient and modern methods of illuminating homes as contrasted with less efficient and less modern methods. Pupils carried the information to their homes and started modernizing them. The demonstration was so successful that it was later repeated for the parents. Several merchants selling lighting fixtures prepared window displays advertising modern lights and displayed posters prepared by high-school pupils urging that "eyes be saved by better lights."

Courses in high-school science are paving the way for rural electrification. Pupils become acquainted with various types of electrical appliances, the cost of operating them, and how to use them efficiently. They are taught to respect but not fear electricity and how to make simple repairs. This type of instruction serves a twofold purpose. It helps to create a desire to modernize rural homes and teaches how to consume electricity economically and safely.

Home-economics and agriculture teachers are perhaps the most influential in modifying home and community life in rural areas. Examples are legion of pupils carrying into the home methods of preparing and preserving food which they have learned at school. Likewise, many farmers have changed their methods after observing the work of a son who applied more modern methods in some project he had undertaken. The author is familiar with a boy who had a wager with his father that he could raise more corn per acre by employing methods learned in high school than his father could by those he had practiced for years. The son won the wager by such a wide margin that all the farmers in the neighborhood were convinced that the agriculture courses taught in high school were practical rather than theoretical.

Safety.—The effectiveness of all educational agencies working together is well illustrated by the many safety programs undertaken by schools all over the nation. The cooperating agencies are the schools, the parent-teacher associations, the local police, and the automobile clubs.

The usual form of activities engaged in by the schools is the organization of safety patrols. The principal of the school is usually the official head who appoints or nominates pupils to be members. The boys are generally organized into units with captains, lieutenants, and patrolmen. They are usually presented with Sam Browne white canvas belts and badges. Each one is charged with the importance of his responsibility by taking an impressive pledge promising to work for the safety of others and to try to protect himself and others.

Patrol boys usually cooperate with the police department who instruct them in directing traffic at dangerous crossings. They are backed by the police to the extent that offenders may be convicted on the word of the boys.

To promote safety and make others safety conscious, they may prepare posters, invent safety slogans, give assembly programs on safety, or prepare sand-table displays portraying the most usual cause of accidents.

Hanna reports an example of a group of school pupils of New York City who made a survey of a section of the city and listed unsafe conditions with respect to fire hazards which needed correction. They then prepared banners and 700 of them paraded to the City Hall where they were received by the Mayor's Committee where they stated their mission. They later sent a representative to Albany to present a petition in favor of a "fire-trap" bill which was under discussion. After the bill was passed they printed and distributed handbills informing the community of their new housing rights, and made investigations to see that provisions of the law were enforced.[1]

In other communities the pupils of the school have made organized attempts to reduce accidents and destruction on Hallowe'en. Schools have sponsored Hallowe'en parties held in the school under supervision of teachers. Pupils engage in planned activities which remove all or part of the desire to wander about the neighborhood engaging in pranks. In other schools, lists of desirable activities for Hallowe'en and lists of things not to do are posted.

Vocational Efficiency.—Although the high school is not the place to develop scientists, artists, and highly skilled mechanics, it does provide opportunities for exploration and guidance in these fields and gives a background for general vocational efficiency and flexibility. The nearest approach to preparing pupils for immediate employment requiring technical skills is in the field of business education, especially in typewriting. This lends itself well to secondary-school instruction in that one may acquire sufficient skill in a rather short time to fill a position. So far as preparing youths for other vocations of a skilled nature, it cannot be done so well.

However, the general training is an excellent background for all vocations. The values, limitations, and attitude of employers toward vocational subjects in the high school will be discussed in greater detail in Chap. XII.

Good Government.—Too often the school, as an institution, studies, rather than leads in social reform. The usual methods of obtaining good government are to wait until conditions become unbearable and then have a house cleaning. After this, the citizens usually relax until sooner or later conditions get bad again. Good government cannot be assured by such methods. It seems that legislation and sporadic efforts to improve conditions are not effective. The only sure method is through a careful selection of government employees at every election. Maintaining this constant vigilance requires citizens who appreciate, respect, and desire good government. The place where this is taught is in the secondary schools. Although many courses in the school curriculum make contributions toward the achievement of these outcomes, the social studies are primarly devoted to achieving them. The success of all civic education is directly related to the school's participation in community activities. If the community is made the laboratory for courses in civics it will give meaning and vitality to otherwise rather meaningless, abstract subjects.[1]

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[1] Paul R. Hanna, "Youth Serves the Community," pp. 42–60, D. Appleton-Century Company, Inc., New York, 1936.

Conservation of Resources.—A recognition of the influence of the school in developing and molding public opinion is found in the fact that several states are requiring that all pupils of the state be given instruction in the conservation of natural resources. The primary aim of such instruction is not to develop skills in the efficient use of natural resources, but in developing social rather than individualistic attitudes. The attitude of the supreme right of the individual over that of the welfare of all society was and is responsible for the wasting and inefficient use of resources. The best method then of preventing this is to develop social attitudes.

"Youth Serves the Community."—An entire volume written by Paul R. Hanna and a research staff was devoted to examples of how youth serves the community. Not all, but most of the organized efforts of youth in improving civic conditions and in solving community problems originated in or were sponsored by the school.[2] The entire volume gives examples of the direct influence of youth in the community. These are organized under the following types of activities:

1. *Public Safety.*—Safety has been promoted through patrol boys, posters, demonstrations, and in investigations made of dangers

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[1] A more complete discussion of how the school may teach pupils to learn the ways of democracy may be found in "Learning the Ways of Democracy: A Case Book in Civic Education," National Education Association and American Association of School Administrators, Educational Policies Commission, Washington, D.C., 1940, 486 pp.

[2] Hanna, *op. cit.*, 303 pp.

in the community which were reported to officials and influence used to improve them.

2. *Civic Beauty.*—Youth has served the community not only by participation in cleaning up vacant lots and unsightly places, and by planting trees and shrubs, but also by organized efforts in locating places which needed beautifying and influencing their improvement. The methods employed were not always the most diplomatic, but results were achieved.

A typical example is found in the case of the Home Beautification Bureau of Future Farmers of America at Maryville, Mo.[1] As a part of their annual contest they planned a campaign of home beautification and improvement. Lists of suggestions were prepared including the following:

1. Keep the grass cut.
2. Plant shrubs and flowers.
3. Repair and paint buildings and fences.
4. Grade and gravel drives and walks.
5. Keep weeds mowed around lots and buildings.
6. Prune and mend trees.
7. Set out shade trees.
8. Plant hedges.
9. Remove rubbish.
10. Repair gates.

Adults were selected as judges. Others became interested in their project and helped by advising and loaning tools, plants, and bulbs. Regardless of who won the contest the entire community benefited.

3. *Community Health.*—Under this category activities involved the collection of garbage, abating the smoke nuisance, inspecting and reporting persons in the school who were not adequately clothed, preparing and displaying posters on pure food and proper diet, studying first aid, locating and removing poison ivy and ragweed, and by sponsoring house-cleaning and clean-up weeks. Pupils of the school not only initiated these projects, but executed them by working, inspecting, reporting, and urging others to participate.

4. *Agriculture Improvement.*—Examples were given illustrating how the school was instrumental in causing improved farming methods to be employed. Some specific problems studied were

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[1] *Ibid.*, pp. 72–73.

how to be more resourceful, how to market crops, and how to maintain farm machinery.

5. *Civic Arts and Local History.*—Schools have sponsored art exhibits of the outstanding masters with the result that many reprints were sold for homes. Schools have aided in improving the quality of the motion pictures in the community, have helped keep libraries open during the depression, and have collected old documents, written accounts of local history, and preserved their records.

School Cooperation with the Community in the Social Studies.—Some practical ways by which a social-studies department cooperates with the community in Tulsa, Okla., are described by Nelle Bowman.[1] A unit on City Life introduces seventh-grade pupils to problems of city living. They study the public utilities of the city, the churches, social organizations, cultural facilities, safety, fire, and police departments. They study and observe the displays of the chamber of commerce and receive publicity for many of their articles of interest in the local newspapers.

In the ninth grade a course in occupations is offered. The tie-up with the community is accomplished by interviews with various vocational groups and a study of the vocational opportunities in Tulsa.

In the senior high school three courses are organized which have their roots in the community. Economic citizenship in the tenth grade provides for visits to all kinds of public buildings and for talks by, and interviews with, various men and women in all walks of life. Pupils visit and inspect banks, telephone companies, public utilities, labor organizations, retail stores, and factories. In the twelfth grade pupils pursue a course in Practical Government and Sociology, and pupils in both the eleventh and twelfth grades may enroll for a course in Contemporary Problems. The latter considers crime, housing, leisure time, taxation, public health, propaganda, civil service, safety, cooperatives, etc. All subject matter is based on local investigations. The community is the laboratory in which all kinds of activities are pursued.

Using the Fields of Study as Links to the Wider Community.—Several examples are given by Thayer, Zachry, and Kotinsky[2] of how the various fields of study may be used as links to a wider community. In order for this to be done, teachers must view the subjects they teach as representatives within the school of vitally important interests, ideas, institutions, and ways of living in the adult world outside the school. When pupils see this point of view, it will aid in getting participation on the part of students in community life.

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[1] Ninth Yearbook of the National Council for the Social Studies, pp. 66–72, Cambridge, Mass., 1938.

[2] "Reorganizing Secondary Education," pp. 226*ff*, D. Appleton-Century Company, Inc., New York, 1939.

An example may be cited in the field of home economics in which a class decided to explore the conditions of home living in the immediate vicinity of the school. Finding conditions unsatisfactory in poor homes where mothers left their children and went to work, the class decided to establish a nursery school. They secured a room from a local club and originally planned to care for the children themselves, taking turns from school. But when the Nursery School Division of the W.P.A. heard of the plan, they provided a trained nursery-school teacher under whose supervision they worked. The art class of the school assisted in decorating the room, shop students made furniture and equipment. Other home-economics groups worked on menus, and the social-studies class used it as a laboratory to observe social reactions of young children.

Trying to find means of correlating the work of the school with that of the community should not be carried to such an extreme the pupils will tire of it, nor should the other extreme ever be permitted, that is, divorcing the school entirely from life as though it were a thing apart.

Education for National Defense.—Another example of the recognition of the influence of the secondary school by society is found in the part given the schools in the preparation for national defense. In the First World War it was observed that, as a nation, we were physically unfit and vocationally untrained, and too many were not in sympathy with the American way of life. It was also found that soldiers were handicapped because of their lack of knowledge of or poor knowledge of the fundamental principles of reading, writing, and arithmetic. The task of supplying these deficiencies has been assigned to the schools. In this age when fighting is done with machines one must know far more than the basic elements of marching, sighting, pulling a trigger, and obeying orders. Furthermore, the "army behind the army" is just as important, for conflicts are won mostly by machines which must be built, transported, and "fed." Lack of internal unity will cause any nation to disintegrate whether in time of peace or war. This point needs no elaboration for those who have followed even superficially the recent European conflict.[1]

The secondary school operating alone could not perform these four services; but by cooperating with other agencies they can be effective. It is claimed that Hitler's power over Germany was obtained by getting control of the minds and bodies of youth, and this was accomplished through the schools which were used as instruments of the state. There is no harm in using schools as instruments of the state or society; the harm is in the type of society or state they are called upon to perpetuate. Americans believe in democracy. They believe it should be perpetuated, and if the schools are needed to defend or perpetuate it, then they are performing a worthy duty for society.

In the previous chapter, reference was made of the four ways given by Briggs which may be employed by the state to perpetuate itself; namely, war, police force, social pressure, and education. The importance of education in this respect was emphasized by the following question:

> Is there any wisdom in outpouring a large fraction of the material wealth of a nation and in sacrificing a considerable fraction of its essential capital, the lives of its citizens, to preserve the state from outside enemies when the greater danger from internal disease is ignored?[2]

The direct influence of the schools is great in preserving the state and in promoting its interests; the indirect is even greater. It is easily seen how textbooks in history, literature, and civics may inculcate ideals which affect living, but even in unsuspecting subjects nationalism is developed. Especially is this done in activities such as clubs, assemblies, and in personal contacts pupils have with teachers. Briggs points out further that "education is the sole means the State has for presenting such knowledge and inculcating such attitudes as are necessary for maintaining the approved standards of living and of raising them toward higher ideals."[3]

Services Performed by Secondary Schools of Other Countries.—Generally speaking, the secondary schools of Europe are to prepare leaders, rather than elevate the classes. Recently, in the totalitarian states as Germany, Italy, and Russia, the schools are being used to indoctrinate youth with the ideals, spirit, and aims of the political party in power. The mere fact that they are using the schools for this purpose is evidence of the powerful influence the institution can have. The secondary school, in the hands of a dictator, used as an instrument of propaganda to further his own ends and perpetuate his own doctrines, can be as dangerous as it can be beneficial in educating for democracy.

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[1] See "Education and the National Defense," *American Council on Education*, Washington, D.C., 1940, 15 pp.

[2] Thomas H. Briggs, "The Great Investment," p. 17, Harvard University Press, Cambridge, Mass., 1930. Reprinted by permission of the President and Fellows of Harvard College.

[3] *Ibid.*, p. 25.

The United States recognizes this danger as shown by the fact that many states have laws requiring teachers to take oaths of allegience to the United States of America. No state will permit anyone to use the schools for indoctrinating youth with un-American ideals, for perpetuating any religious creed, or doctrine, or for advancing some political party.

Soviet Russia uses her schools as instruments of the state. In order to perpetuate communism it was considered necessary that illiteracy be abolished so that principles of the communist party could be disseminated. The schools were employed for this purpose.

In Denmark, society wished to ennoble rural life and honest labor. The Folk school, founded by Nikolaj Grundtvig, serves this purpose.

Has the High School Reached Its Highest Potentialities in Serving the Community?—The answer to this question is obvious. The potential abilities of the secondary school as an institution for service to society have hardly begun to reach their maximum development. As shown in the present chapter, the high school has assumed at least part of the responsibility in the solution of a large number of community problems and has aided materially in their solution; but to say that it is doing all it can in this respect is to minimize the powerful influence such an institution can exert.

It is impossible for anyone to measure accurately the value of a high school to a community. Since it is a cooperating agency in the entire educational process it is not possible to disassociate its influence from that of other educational agencies. Some of its immediate results can be observed, but many of the far-reaching results cannot be measured in objective terms.

Regardless of the number of observable values of the high school to the community, there are still many persons in the United States who are not yet convinced that its services are proportional to its cost. This is one of the reasons why secondary schools have not been made available to all youth in certain areas. To force secondary schools upon them by the majority who do appreciate the merits of the high school would defeat its own purpose. Rather, it is necessary through an adult-education program to convince them of its merits. The best way for the school to do this is to take a greater part in the solution of community problems and in community life and demonstrate its value by actual accomplishments.

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CHAPTER IV

ORGANIZATION FOR SECONDARY EDUCATION

The previous chapters have answered the questions, Why do the people of the United States want secondary education? and What are the purposes of secondary education? As the desire for secondary education grew, the problem of making the schools accessible for all who wished to attend was accentuated. The factors involved were the construction of buildings of sufficient number so that all pupils might have access to one, securing trained teachers, determining the administrative area, and financing the enterprise. Such questions as to whether there should be local or state control, public or private support, education for both or only one sex, a separation of church and state or a uniting of these, had to be solved.

The present situation is the result of a gradual growth without definite planning by any central authority. Since the constitution of the United States left the work of establishing schools to the states, and the states left it to the local communities and districts, there has developed an organization for secondary education lacking in design and uniformity. In some sections facilities have been duplicated by establishing too many schools, while in others no secondary schools have been established. The various counties were first divided into districts for the purpose of establishing elementary schools. After it became evident that secondary education was a public rather than a church or private function, the state, instead of reorganizing the already existing system, maintained and modified it. This resulted in many schools in sparsely settled areas and the inability to establish any in those districts too small to maintain one.

Past Methods of Providing Educational Facilities in Sparsely Settled Communities.—In the latter part of the Colonial period and early part of the nineteenth century, the school district was considered to be the largest unit which was practical for school administration. This idea developed because of the slowness of communication and transportation with resulting isolation. Although changing conditions have made the district system obsolete, it has shown a great tenacity when attempts have been made to abolish it and create larger administrative areas.

The first school districts were for establishing elementary schools. When the high school became legalized as a tuition-free, tax-supported institution, the elementary or common-school districts took over the responsibility of establishing high schools, or two or more combined to form "joint," "consolidated," or "union" districts. The latter was an approach to an administrative unit large enough to finance an adequate program. A few states adopted the county as a unit, which was a step in advance. Many pupils are being transported to consolidated or urban schools, and in some places dormitories have been established.

The small district system did not materially effect urban centers where the densely populated area was often larger than the district, and in great cities where the city limits encompassed an entire county or more, but in rural areas it resulted in the establishment of thousands of small high schools enrolling fewer than 100 pupils. These schools try to maintain four-year programs with one to three or four teachers, and without adequate funds for equipping the school or paying the teachers.

DEVELOPMENT OF THE PRESENT ORGANIZATION FOR SECONDARY EDUCATION

The present organization for secondary education was built upon the organization for elementary education, which accounts for the lack of uniformity over the nation and the large number of districts, which do not have high schools. The district system was established to provide for a state system of elementary education while secondary education was still believed to be a church or private function. After secondary education was accepted as a state enterprise, the district system was modified, changed, built upon, or retained depending upon the density of population or section of the country.

To trace the development of this system, it is necessary to begin with education during the Colonial period.

Colonial Period.—The first secondary school established in America was the Latin grammar school which was transplanted from Europe and first established at Boston in 1635. It is difficult to classify the Latin grammar school as either public or private in administration and support, for it had elements of both. The sources of support were numerous. It was supported by compulsory contributions or levies and by tuition fees which were charged all pupils save those unable to pay. Funds were derived also from the General Court in each colony with grants of land or money. The compulsory contributions led later to a system of rates for raising public funds for education and led in time to the disappearance of tuition fees.

The schools were administered by town meetings. The responsibility for the appointment of a schoolmaster and for general purposes was vested in selectmen or in general committees appointed at these meetings. Ministers often approved appointments and inspected the schools. This indicated a close association between the Church and the towns in the control of education.

During the Colonial period elementary education was provided in various ways. In New England it was provided in the home, the dame school, and in town elementary schools. In Pennsylvania it was provided by parochial schools, and in Virginia by private tutors, and by charity and pauper schools. Private day and night schools appear to have been quite common all through the eighteenth century.

In a number of New England towns, elementary schools were established and supported in much the same manner as the Latin grammar schools, that is, by tuition, endowments, contributions, and general taxes. The Massachusetts law of 1647 made the establishment of these schools in all towns of 50 families compulsory. The chief function of the town elementary schools was to provide instruction in reading, and to give instruction in writing and arithmetic. They were ungraded, and indefinite in length. Sometimes the schools were divided, one half being devoted to reading and writing, the other to reckoning, in which case the pupils divided their time between them. In the central colonies schools were to a great extent maintained by the various religious groups.

As the towns in New England grew, children were unable to get to the school because of the distance from their homes. Consequently the practice of having school at different places in the town developed and the district system developed. The Massachusetts law of 1789 legalized the district system and repealed the earlier laws requiring the town to maintain a school.

During this period there was no relationship between the elementary school and the Latin grammar school. The former was designed for those not intending to go to college while the latter had for its purpose the preparation for college. Both schools admitted pupils at the ages of seven or eight. The Latin school at first assumed that those admitted could read but often it was compelled to provide instruction in reading by an assistant or usher. The two were parallel and served two classes of people. In 1789, all Latin grammar school pupils were required to be ten years of age at entrance and they were required to be able to read in English. This was one of the first steps in building our educational ladder, which began to take form in the latter part of the eighteenth century. The Latin grammar school received pupils at first at the ages of seven or eight, later ten, and graduated them at 14 or 15. The colleges received students at 14 or 15 and graduated them at the ages of 18 or 19. The colleges, during this period, corresponded to our present four-year high schools insofar as ages were concerned.[1]

The Academy Period.—The academy was established as a private institution, the first one being that established by Benjamin Franklin in Philadelphia in 1751. It was supported by tuition mostly, but later received some state support. The academy contributed little to the development of an organization for secondary education, for after the high school was started in 1821 it competed with it because of their differences in philosophy, that is, a free, publicly supported and administered school as opposed to a private one.

There were several almost distinct types of academies classified according to control or function:

1. Those established as a business venture for the purpose of gaining a profit. These were controlled and administered by companies. Others operated without profit for the purpose of preparing boys and girls for college.
2. Those established by religious organizations in order to assure religious training and an educated ministry.
3. Those established by state grants, or receiving state grants as in Massachusetts in 1797, and in New York in 1784 when a Board of Regents was established given the right to incorporate, visit, and aid academies. Many were established in connection with state universities, normal schools or colleges after 1850, in order to prepare some of those seeking admission. These were gradually abandoned with the rise of the high school.[2]

Most of the states established funds for the aid of the academies and there was a feeling that they belonged to a state school system.

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[1] William A. Smith, "The Junior High School," The Macmillan Company, pp. 4–14, New York, 1930.

[2] See I. L. Kandel, "History of Secondary Education," pp. 391–422, Houghton Mifflin Company, Boston, 1930.

However, the states did not assume control or supervision over them. The supervision and administration was usually left to boards or local control, with the exception of the State of New York, where a Board of Regents was established which exercised control of educational institutions.

The Revolutionary Period.—During the Revolutionary period education suffered, since the colonists had other matters to occupy their attention. After peace was established and the states drew up new constitutions, education received some attention. The revolutionary ideas about the perfectibility of man and the doctrine of natural rights led to the idea of education for the masses. Public town schools and charity schools were still providing most of the elementary education. The New York Act of 1795 for the encouragement of schools met with little success despite the fact that it provided a system of state grants. In fact many communities failed to qualify to get this money, and in 1796 the sum of 944 pounds was given to the various religious groups maintaining schools. A Virginia law of 1796 made provision for three years of free schooling, but the law was permissive rather than mandatory and little good came from it. Some constitutions provided that the legislatures should provide schools in which children could be taught at low prices, and others directed that schools be established for the instruction of paupers.

In the first quarter of the nineteenth century the Lancasterian system was introduced and taken up extensively. It provided an enormous stimulus to elementary education since it was possible for one master to teach several hundred children at a very small cost per child. In 1823 in New York City the cost was less than two dollars per child per year. School societies were organized and they first supported schools and gradually led the public to the place where it was willing to support schools.[1]

Early National Period.—The growth of the district system and the attitude of the federal government that education was a state function retarded the growth of any strong national system. Between 1789 and 1827, districts became legal in Massachusetts. They were organized in 1789, given the right to tax themselves in 1800, became corporations in 1817, and all schools were placed in the hands of the districts in 1827. By 1825 the local-district system had spread and today it is still the most common form of local administrative unit.[1] Several other obstacles prevented the more rapid development of public schools. Many believed that education was not the function of the state. The apprenticeship system was considered sufficient for vocational training, and pauper and charity schools were still believed by many to be adequate for elementary education. The latter were later given public support, but they fostered class distinction. The parochial school was still considered the best type by many in order that religion, morals, and ethical character would be stressed. These sought state support, and in 1842 a New York legislature decided against it, which attitude has been a national policy every since.[2]

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[1] J. F. Reigart, The Lancasterian System of Instruction in the Schools of New York City, Teachers College Contribution to Education 81, Teachers College, Columbia University, 1916, 105 pp.

The beginning of a state school system after the Revolution might be traced to Thomas Jefferson, who, in 1779, presented a bill in the Virginia Legislature proposing the organization of elementary schools for each hundred, and to educate the best pupils in grammar schools. The constitution of Indiana, adopted in 1816, provided that the general assembly should provide by law a general system of education, ascending from elementary school to the universities, which should be gratis and open to all. The same principles were embodied in Tennessee legislation in 1817,[3] and in Michigan in 1835.

The fact that the states did not early adopt a system of education was not because they rejected the principle, but because they were not able. The Massachusetts Law of 1647 is an example of the poor enforcement of a provision ahead of its times. State universities started rising in the early part of the ninteenth century. The university of Indiana was established in 1820, and Jefferson founded the University of Virginia in 1819. The elementary school had already been accepted as a state function and was being supported by taxation. The next step was to include secondary education since the state had already assumed responsibility for elementary and higher education.

The High-school Period.—The first high school was established in Boston in 1821. It was called the *English Classical School* or the *Boston Classical School*. In 1826 the name was changed to *high school*. It is thought that the term originated from John Griscom, who established two high schools in New York City and who published pamphlets on education called "A Year in Europe." The term "high school" probably originated because it gave instruction beyond that of the elementary school.

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[1] Smith, *op. cit.*, pp. 17–18.

[2] A. A. Douglass, "The American School System," p. 121, Farrar & Rinehart, Inc., New York, 1934.

[3] Kandel, *op. cit.*, pp. 423*ff*.

Massachusetts had again taken the lead in establishing a publically supported secondary school; but although the idea was planted it was difficult to get it to grow. That the high school had a slow growth for the first 50 years of its existence affirms the fact that the great masses of people were not yet ready to accept the new philosophy. It did not gain its present position without a struggle. It is doubtful if any who lived during the contest between the high school, a free public school, and the academy, a semipublic tuition school, knew which would finally be accepted as the American type. The high school had to blaze new trails, for it was not established on precedent. Many believed the United States could not afford to give secondary education to the masses at public expense, and others did not believe education was a function of the state.

With the Boston High School as a model, the high-school idea soon spread to other centers such as Troy, Buffalo, and Philadelphia. The number established in various sections of the United States in each decade from 1821 to 1900 is presented in Table 10, and also shown in Fig. 5, in which the slow growth can be seen for the first 50 years.

Legislation Legalizing the High School.—All educational reforms and advancements are conceived at first in the minds of a few outstanding leaders, who use their influence to educate the masses to their point of view. The rise of the high school is an example of this. Such leaders as John Griscom, who organized the "High-school Society" in New York, Henry Barnard, through whose influence a state board of education was created in Connecticut, and Horace Mann, who established the first normal school in Massachusetts in 1839, helped establish state educational systems.

Before free public education on an elementary level was accepted, a struggle was necessary. Secondary education required a greater one. Some of the arguments against the high school were that it was not right to tax a man to educate his neighbor's children any more than to feed and clothe them; that it was a waste of public funds to give them a high-school education; and "it is a shame to tax the poor man to pay a man $1,800 to teach the children to make X's and pot-hooks, and to gabble parley-vous."[1] It was further criticized because it did not give religious instruction.

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[1] Quoted in Kandel, *op. cit.*, p. 435.

Progress came first in the establishment of high schools, and second in legislation legalizing the school, which added impetus to the movement. Massachusetts was the first state to pass laws requiring the establishment of elementary schools and the Latin grammar school in 1647. It was also the leader in the high-school movement. In 1827, Massachusetts passed a law requiring that in every town of 500 families a teacher must be employed to teach the common branches, United States history, bookkeeping, geometry, surveying, and algebra. Since there was no state department to administer the law, its success was not complete. In 1859 a modified law was passed, and on it the modern high school was built.

TABLE 10

DECADES OF ORIGIN OF HIGH SCHOOLS IN VARIOUS DIVISIONS OF THE UNITED STATES*

Year	North Atlantic	South Atlantic	South Central	North Central	Western	Total
1820–1829	6		1		.	7
1830–1939	10	1	1	2		14
1840–1849	27	4	3	9	..	43
1850–1859	67	1	5	34	1	108
1860–1869	60	7	3	103	4	177
1870–1879	121	25	27	298	8	479
1880–1889	142	47	103	508	29	829
1890–1899	318	91	161	595	155	1320
1900–1902	31	17	30	93	31	202
Total.	782	193	334	1642	228	3179

* From E. G Dexter, "A History of Education in the United States," p. 173, by permission of The Macmillan Company, publishers, 1904.

In Connecticut, through the influence of Henry Barnard, a state board of education was created of which he was the first secretary. A high school was established in Hartford in 1847, and in other towns by local decision. This method was followed in Vermont and Rhode Island.

In 1853 New York State enacted a "Free School Act." In Pennsylvania a general law was passed in 1854 authorizing the establishment of graded schools and the study of higher branches, and in Ohio, in 1853, an act was passed providing that a special city or town school organization might establish a high school.[1]

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[1] *Ibid.*, pp. 442–444.

These laws represented the general situation over the country save in the South. However, they did not settle the question of whether boards of education had a constitutional right to levy a tax for the support of an advanced education for all children.

The Kalamazoo Case.—This question was finally settled by a series of court decisions. One of the most famous cases was the Kalamazoo, Mich., case. The issue under contention was that the constitution of the state did not mention high schools, and that they should not be supported from funds collected for common schools, since they were a part of higher education; and also that the teaching of a foreign language in a high school at public expense was not constitutional, since the law required that all instruction be conducted in English.

The case was tried as a friendly suit against the school district, and the lower court sustained the school district. It was appealed to the supreme court in 1874. Again the school board was sustained. The decision established a precedent for other states. In 1880 the Supreme Court of Illinois held that because the "German language is one of the branches of study prescribed in a public school, it does not change its character as an English school."[1]

A number of these cases appeared before the courts in Illinois, Mississippi, Maryland, Missouri, and Kansas prior to 1899. In all of these cases the courts upheld the principle of a free tax-supported secondary school.[2]

Growth of the High School.—For the first fifty years of its existence, the high school had a slow growth. It had to compete with the academy not only as a type of school, but also against the philosophy on which it was founded, that is, a private secondary school contrasted with a free public one.

According to Inglis, 321 high schools had been established up to 1860, of which 267 were in Massachusetts, New York, and Ohio. The actual number established is not certain. Estimates are made as shown in Table 10. After 1860, the academy began to decline and the high school was definitely established as the predominant type of secondary school.

After the high school was legalized, growth was rapid. The number increased from 2,526 public high schools in 1890 to 25,652 in 1938. Private schools increased from 1,632 in 1890 to 3,327 in 1938. It will be seen that the public school has increased many times faster than the private school (Table 11). The factors causing the rapid growth were:

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[1] Quoted in Kandel, *op. cit.*, p. 447.

[2] Jeannette B. Burrell and R. H. Eckelberry, The High School Question before the Courts in the Post Civil War Period: Times, Places, and Participants, *The School Review*, **42** (May, 1934), p. 338.

TABLE 11

GROWTH OF PUBLIC AND PRIVATE HIGH SCHOOLS IN THE UNITED STATES FROM 1890 TO 1938*

Year	Type of school		
	Public	Private	Total
1890	2,526	1,632	4,158
1900	6,005	1,978	7,983
1910	10,213	1,781	11,994
1920	14,326	2,093	16,419
1930	18,116	2,448	20,564
1938†	25,467	3,327	28,794

1. Decline of the academy, although this was more of a result than cause.
2. Increased faith in the high school.
3. Increased wealth and leisure in the United States.
4. Growing need for a trained citizenry.
5. Improved child-labor laws.
6. Compulsory school attendance laws.
7. Legislation permitting towns, cities, and districts to tax themselves for the support of high schools.

The liberalization of the high-school curriculum, the reorganization of the school, the organization of the junior high school and the junior college, will be discussed in a later chapter.

Mileposts in Secondary Education.—By way of summarizing the development of secondary education, a number of important events, listed in chronological order, are presented. These might be called "Mileposts in Secondary Education":

1. Establishment of the Latin grammar school in Boston in 1635.
2. Massachusetts law requiring all pupils to learn to read and write—1642.

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* Biennial Survey of Education, 1932–34, *U.S Office of Education Bulletin* 2, 1935, Chap. V, p. 16.

† Education in the United States of America, *U.S. Office of Education Misc. Bulletin* 3, 1939, p. 55. See also Chap. I, Fig 2.

3. The "Old Deluder Satan Act," Massachusetts, requiring the establishment of a Latin grammar school in all towns of 100 families or householders—1647.
4. Franklin's Academy established in Philadelphia, 1751.
5. Phillips' Academy established, Andover, Mass., 1778.
6. English Classical school started in Boston, 1821.
7. First high school for girls, New York, 1825.
8. Massachusetts law requiring instruction in high-school subjects in each town of 500 families, 1827.
9. High school became coeducational, 1840.
10. Kalamazoo decision legalizing the collection of taxes for the support of the high schools, 1874.

TYPES OF ORGANIZATIONS FOR SECONDARY SCHOOLS

Because of varying topography, climatic conditions, economic conditions, and educational philosophies, different types of school systems were established, and different types of organizations were effected. The previous section has shown how Massachusetts took the lead and set an example in establishing a public-school system. Although not all of the settlers were strongly religious, the religious leaders dominated the situation, which furnished a motive for establishing schools. In order to protect themselves from the Indians, they lived mostly in compact communities, which facilitated the establishment of schools.

In the South, the situation was entirely different. There were fewer hostile Indians to prevent agricultural pursuits, and much land was soon controlled by a few who owned Negro slaves. The winters were mild so there was work the year around. The plantation owners did not see any need for educating the slaves, so no public schools were established. They commonly hired private tutors for their children, or sent them to New England or to Europe to be educated. It soon became a sign of wealth and of being a member of the aristocracy to be educated in this manner. The South's first college was William and Mary, established in 1693.

Little headway was made in the South until after the reconstruction period. The constitutions of the various states made provision for a public-school system, but little was done. The factors retarding progress were:

1. A depleted wealth due to the Civil War and conditions immediately following.
2. The necessity of establishing separate schools for whites and Negroes.

3. The attitude of the plantation owners that education for the masses as an unnecessary luxury, and that public schools should be "pauper" "charity" schools.

Owing to the wide areas, the sparsely settled sections, and the ystematic manner in which the West was divided into sections and ownships, the township or district became the local unit of school dministration, in which many small schools were established. hese were largely one-teacher schools.

At the present time there are about 126,849[1] school districts in he United States ranging from 266 in Nevada to 12,000 in Illinois,[2] any of which are so small that they have only one one-room school uilding and so poor that they are hardly able to support that school, hile the establishment of a high school is out of the realm of ossibility for them. A concrete example of an extreme case may e found in Washington County, Ark., in which there are 126 chool districts. Ninety of these have only one one-teacher school n each, and 16 have one two-teacher school, leaving only 20 with nore than a single one- or two-teacher school.

Districts which were thickly populated and had sufficient vealth established high schools early. For those who could not stablish schools because of insufficient funds or a potential secondry-school population too small to make the establishment of a chool profitable, there were several alternatives from which they night elect: (1) to send their pupils to other districts, (2) to conolidate with another district for the purpose of maintaining a high chool, or (3) to create larger districts such as the county.

The first alternative, that of sending pupils to other districts, s provided by state law in practically all states. In 32 states listricts not maintaining a high school are required to pay tuition to hose to which they send pupils. Among these are Pennsylvania, ew York, Colorado, and Ohio. In Connecticut, Missouri, Minnesota, and Virginia the expense is borne partly by the state.[3] n some cases, districts not maintaining high schools may pay the uition of children attending in other districts but such payment is ot required. Usually pupils are welcomed in other districts for they assure additional revenue and increase the enrollment to such an extent as to warrant a satisfactory secondary-school program.

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[1] Bienniel Survey of Education, 1934–36, *U.S. Office of Education Bulletin* 2, 1937, Chap. V, p. 42.

[2] Ward W. Keesecker and Franklin C. Sewell, *Legal and Regulatory Provisions Affecting Secondary Education,* National Survey of Secondary Education, Monograph 9, *U.S. Office of Education Bulletin* 17, 1932, p. 10.

[3] *Ibid.*, p. 53.

Second, two or more elementary-school districts may unite to form a high-school district superimposed on the original territory as in the states of Ohio, Washington, Illinois, and Oregon.[1] High schools supported in this manner are called "union" or "joint" high schools. There are 41 states which provide for some form of consolidation of school districts for the purpose of maintaining high schools.

The third alternative is that of organizing on the county unit basis. In this case all districts, save independent districts, that is, municipal corporations independent of the incorporated common school districts, are abolished and the affairs of the school are controlled by a county board of education. The only exceptions to this are found in West Virginia and Florida, in which states the independent districts are controlled by the county. There are 11 states in which this plan is common, among them being West Virginia, Maryland, Louisiana, North Carolina, New Mexico, and Utah. A number of other states, in which the local school district is the principal unit for administration of the schools, make provision for county high schools, among them being Montana, Texas, and Wisconsin.[2]

In the more densely populated sections of the United States few problems are encountered in making secondary education accessible for all. In sparsely settled sections the problems are legion due to an insufficient number of pupils and a lack of funds to make the establishment of a high school possible. Larger administrative units, consolidation, and transportation are a few of the solutions being practiced.

As a result of these modifications of the existing system to overcome the evils due to the inherent weakness of the district system, various types of organizations are now found in the United States:

1. *Common School District.*—Although the common school district is too small to encompass an area large enough to support education, especially in rural areas, it is still the prevailing type in 26 states as shown in Table 12. There are approximately 119,340 of the 126,849 local units in the United States organized in this manner.

2. *The Union School District and the Associated School District.*—These types are formed by the uniting of two or more common school districts to

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[1] *Ibid.*, p. 23.

[2] *Ibid.*, p. 15.

support a "joint" or "union" high school. This cooperation makes possible a high school which no one of the districts could support independently.

3. *The Township or Town.*—The township or town are similar to a district save that they are larger and the boundaries are arbitrarily set. The average size of the common school districts is 18 square miles, and of the township or town, 28. The township is the prevailing type in Indiana, New Jersey, Ohio, Pennsylvania, and to an extent in Michigan, Iowa, North Dakota, and South Dakota. The town is the prevailing type in New England.

4. *Village or City District.*—In many cases cities and villages are independent of the surrounding district or township. These are known as independent districts.

5. *Consolidated Districts.*—Consolidated districts are composed of two or more common school districts or townships. They may unite for the consolidation of all schools in the area, or have a partial consolidation, that is, separate elementary schools and a joint high school.

TABLE 12

TYPES OF LOCAL UNITS FOR THE ADMINISTRATION AND SUPPORT OF PUBLIC SCHOOLS IN THE UNITED STATES*

Type of unit prevailing	Number of states	Average number of administrative units per state	Average number of square miles per local unit in each state
State	1	15	131
County	11	145	377
Town or township	10	629	28
District	26	4,590	18
Average, including all types for United States	..	2,651	23

* Biennial Survey of Education in the United States, 1934–38, *U.S. Office of Education Bulletin* 2, 1937, Chap. V, p 42.

6. *The Community.*—The community is defined as the people in a local area tributary to the center of their common interests. It is a group that can provide for itself all the chief human activities. It is evident that no area can be prescribed for a community. It will vary in different sections, and conforms more to the principles for organization than any other. This is practiced to an extent in New York, Washington, and Illinois.[1]

7. *The County.*—The county as a school unit is the prevailing type in 12 states, most of which are located in the South. These states are Alabama, Georgia, Florida, Kentucky, Louisiana, Maryland, New Mexico,

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[1] Charles D. Lewis, "The Rural Community and Its Schools," pp. 83–86, American Book Company, New York, 1937.

North Carolina, Tennessee, Utah, Virginia, and West Virginia.[1] It may permit independent districts within its boundary as in Louisiana and Maryland, in which states large cities may be independent, or it may be a comprehensive organization as in West Virginia. There may be also a partial county organization over and above the district system as in Ohio, which has a county board having the authority to eliminate small schools and transport pupils to larger schools.[2]

Butterworth[3] suggests several principles in determining the size and character of the school unit which may be used as criteria for selecting or judging a local unit:

1. *The Physical Resources.*—The area should be large enough that the combined resources will support an adequate program.
2. *Common Purpose.*—Those residing in the area should be like-minded enough, that a common education will suffice for all. This would require common interests, common purposes, and a high degree of homogeneity.
3. *Continuity of Membership.*—The population should be alike with respect to population shifts.
4. *Interaction with Others.*—The group residing within the area should have or develop a group loyalty, and an attitude of cooperation to the extent that all will work toward the welfare and betterment of the whole.
5. *Same Traditions.*—Conflicts will occur if the people of one district vary too greatly in their traditions, mores, and cultural background.
6. *Some Type of Organization.*—The unit should not merely be an area with fixed limits in which all taxes are placed in a common fund and distributed where needed, but there should be a central authority for planning and administering.
7. *Facility of Contacts.*—The unit should not be so large that members of any section cannot contact those of another, or that all pupils could not be transported to centrally located schools.

In a later publication, Butterworth gave four factors which he considered important, two of which were additions to his former principles: (1) The group should be large enough to be stimulating and small enough to be sufficiently homogeneous for cooperation, and (2) the area should be no larger than that which the available leadership is adequate to encompass.

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[1] National Survey of Secondary Education, Monograph 9, *U.S. Office of Education, Bulletin* 17, 1932, Washington, D.C., p. 15.

[2] Biennial Survey of Education, 1934–36, *op. cit.*, Chap. V, p. 41.

[3] Julian Butterworth, "Principles of Rural School Administration," Chap. V, The Macmillan Company, New York, 1926.

Dawson[1] proposed specific standards for a local school unit, which are presented briefly in the following statements:

1. An elementary school of six or seven teachers, and a minimum of 240 to 280 pupils.
2. A six-year high school should have an absolute minimum of seven teachers and a desirable minimum of ten teachers, and a minimum of 210 to 300 pupils.
3. There should be at least one supervisor to each 40 to 50 teaching positions.
4. There should be at least one health nurse to each 2,000 school children, and one attendance supervisor for not more than 6,000 census children.
5. The number of employees necessary for a standard administrative and supervisory organization is 31 persons, who will accommodate 12,000 pupils.
6. The minimum size of a satisfactory local unit is approximately 1,600 pupils and 46 teaching units.

If these principles are followed in organizing school units, they will not be of a uniform size, even in the same state. It is impossible to prescribe the size arbitrarily, or block them out from a study of a map. They must be determined from a thorough study of each local community, and changes made in the light of experience and changing conditions. Thus flexibility of boundaries should be added as another principle of organization.

Studies show that the county unit is superior to the district in certain respects. Gressman[2] compared seven counties in Maryland, a state organized on a county-unit basis, with seven in Pennsylvania, where the township and the borough are the prevailing types. He found that in the equalization of costs, the administration of transportation, and the equalization of the weight of taxation, the county unit was superior. It was also superior in the rapidity of closing one-teacher schools. In the matter of entrance upon high-school opportunities by graduates of the elementary school, the Pennsylvania counties which were studied seem to show better results, while in general financial administration certain rather large savings make the county-unit plan of Maryland distinctly superior to the township, borough, or city system in Pennsylvania.

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[1] Howard A. Dawson, Satisfactory Local School Units, *Field Study* 7, Division of Surveys and Field Studies, George Peabody College for Teachers, pp. 39, 59, 60, 82; reported in Biennial Survey of Education, 1934–36, *op. cit.*, Chap. V, p. 44.

[2] *Ibid.*, p. 43.

The county unit facilitates consolidation better than smaller units. Of the 17,008 consolidated schools in the United States, 8,693, or over 51 per cent are in 14 Southern states, 11 of which are organized on the county-unit basis. There is interest in consolidation in the North, but it can be carried out better under the county plan. Likewise, the percentage of one-teacher elementary schools in the county-unit states is less than the percentage in an equal number of states on the small unit basis.[1]

Since the county as a unit does not meet all the principles and standards of a local unit, there are some who claim it does not represent progress since it is only a step toward larger units, and will eventually have to be replaced by another type.

How Has Secondary Education Been Made Available to Rural Youth?—Because of the many problems confronting the people residing in rural areas the establishment of facilities for secondary education did not keep pace with the desire to attend. In those portions of the United States where the population was dense and there was sufficient wealth, the establishment of schools was an easy matter but in inaccessible, sparsely settled areas with little wealth making secondary education available for all was impossible unless small schools were established. As a result, many contrasts are noted in educational facilities in rural and urban centers.

Typical Rural High Schools.—Typical rural high schools enroll few pupils, have school terms ranging from four to nine months, have buildings which are small and often poorly constructed, have meager equipment, and few facilities for enriched work. Only one in six of the small high schools of less than 100 pupils is reorganized.[2] The teachers are poorly paid and are required to teach from four to seven and even eight classes a day with an equal number of preparations. In the majority of rural schools, the curriculum is narrow—the college preparatory course being the one usually offered. The schools are not easily accessible, pupils often have to travel several miles over poor roads, and many pupils have no means of transportation. When contrasted with the typical urban school, gross inequalities in educational advantages are apparent.

There are far more rural than urban schools, but they have only half as many pupils, and a little over half as many teachers. The average size of rural schools is 115 pupils, and of urban, 812 (Table 13). There is not a great difference in the average number of days school is in session, but the range is wider in rural sections since many have shorter terms. More pupils between the ages of 14 and 17 are enrolled in urban than in rural schools. This percentage increased rapidly from 1926 to 1934. In 1926 only 29.7 per cent were enrolled in rural areas and 53.6 per cent in urban; and in 1934, the percentages were 60.5 and 67.9 indicating that the greatest increase was in rural areas.[1] From 1932 to 1936 the rural high-school enrollment increased 24.7 per cent as contrasted to an increase of only 11.2 per cent in urban centers.[2]

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[1] Lewis, *op. cit.*, pp. 180–181.

[2] Trends in Secondary Education, *U.S. Office of Education Bulletin* 2, 1937, pp. 1–2. See also Statistics of Public High Schools, 1937–38, *U.S. Office of Education Bulletin* 2, 1940, Chap. V, p. 5.

TABLE 13

A COMPARISON OF RURAL AND URBAN HIGH SCHOOLS OF THE UNITED STATES ON CERTAIN ITEMS*

Item	Urban population over 2,500	Rural population under 2,500	United States average
Number of schools	5334	17,698	
Number of teachers	169,309	103,424	
Number of pupils	5,055,559	2,361,143	
Average (mean) size of school	812	115	282.5
Teacher-pupil ratio	1 to 30	1 to 25.6	1 to 28
Average number of teachers to a school	26 to 27	3 to 4	8 to 9
Average length of school term	182 days	175–182†	177 days
Average (mean) teachers' salaries	$1,986	.. ..	$1697.66
Per cent of pupils attending between ages 14 to 17	67.9	60.5	64.0
Number of graduates in 1937	616,708	305,645	
Number going to college in 1937	188,217	81,414	
Ratio of graduates to graduates entering college	3.3 to 1	3.8 to 1	

* Based on data from Biennial Survey of Education, 1932–34, *U.S. Office of Education Bulletin* 2, 1935, Chap. II, p. 18; Chap. III, p. 10; *ibid.*, 1934–36, Chap. V, p. 7; 1936–38, Chap. V, pp. 28–29, 78.

† Emery N. Ferris, W. H. Gaumnitz, and P. Roy Brammell, The Smaller Secondary Schools, National Survey of Secondary Education, Monograph 6, *U.S. Office of Bulletin* 17, 1932, p. 15. The range is from 160 or fewer to 196 or more.

In the schools sampled in the National Survey of Secondary Education there were no significant differences between rural and urban schools in holding power to the twelfth grades, save in those schools which were reorganized. In reorganized schools the percentage reaching the twelfth grade was 64 as contrasted to 51 in regular high schools. These percentages were computed on the basis of the ninth grade as 100 per cent.[1]

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[1] Biennial Survey of Education, 1934–36, *op. cit.*, Chap. V, p. 7.

[2] Education in the United States, *U.S. Office of Education Bulletin* 3, 1939, p. 7.

Secondary Education in Urban Centers.—The typical regular secondary school in urban centers enrolls over 1,000, the reorganized, 820 pupils and employs about 28 teachers. It is usually located with reference to the population and is easily accessible for walking or by car. To house the secondary school usually requires a building covering a large part of a city block which, with the grounds, usually covers a block or more. Due to the huge assessed valuation of city property, sufficient revenue is available so that the school is well equipped and furnished with laboratories, libraries, and workshops, and usually contains an auditorium, a gymnasium, and special rooms for subjects not well adapted to the typical classroom. The curriculum is varied, including courses in industrial arts, home arts, and commercial subjects, as well as general, classical, and college-preparatory subjects. The school term is usually nine months in length and in many cases ten months. Teachers are well paid, the average being $1,986 a year, and have more professional preparation than those in rural areas.

THE SMALL HIGH SCHOOL

The greatest evil of the district system is the inability of many districts to establish any high school; next to this is the fact that many are forced to establish small high schools if they are to have any. The district system, however, is only one of the reasons for the existence of the small high school for many places are so thinly settled they would have to transport pupils too far in order to consolidate.

The extent to which smaller schools have been established is shown by the fact that 39½ per cent of all high schools enroll fewer than 100 pupils, and 467 enroll fewer than 10 pupils. This is far less than the number recommended for maximum economy and an enriched program of studies. The United States has been called a nation of small high schools and truly merits the name. The major evils of small high schools may be enumerated as follows:

1. Teachers are overworked because the minimum number of subjects usually offered is 16, and with one to four teachers, this means several

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[1] The Smaller Secondary Schools, National Survey of Secondary Education, Monograph 6, *U.S. Office of Education Bulletin* 17, 1932, pp. 18–19.

subjects must be assigned to each teacher. In the smaller schools of New York State, surveys show that the number of subject preparations per teacher per day is as high as six and one-half.[1]

2. The program cannot be enriched with activities, elective subjects, or nonacademic subjects such as music, drawing, physical education, or vocational subjects such as home economics, shop, agriculture, and commercial courses, to the extent that is done in larger schools.

3. Many facilities such as libraries, laboratories, gymnasiums, and shops cannot be supplied because the unit cost would be out of proportion to the number deriving benefits from them. It requires the same laboratory equipment to teach one class of ten pupils as it does to teach several classes of 25 to 30 pupils each. The same is true of other facilities.

4. Due to the limited population served by a small high school, and the larger unit or per-pupil cost of instruction, the small school is usually under-financed. Likewise the wealth in taxable property behind each pupil is usually lower in rural areas than in urban centers. For this reason the schools are usually understaffed and do not attract the most capable teachers because of low salaries.

5. The high-school principal must devote the majority of his time to teaching, leaving little time for administration and supervision.

The small high school retards reorganization. As shown in Table 14 the highest percentages of reorganized schools are to be found among schools enrolling 100 pupils or over. Thirty-nine and five-tenths per cent of all schools have enrollments of 100 or fewer and of this 39.5 per cent only 20 per cent are reorganized,[2] while of those enrolling 100 or more, 53.3 per cent are reorganized. The fact that fewer small schools are reorganized than large ones is also revealed by the fact that although only 38.7 per cent of all schools are reorganized, they enroll 56.5 per cent of all secondary-school pupils.

There are several factors which have retarded the reorganization movement in small schools, most of which are found in rural areas. In the first place, the junior high school is more expensive than the same grades in the 8-4 plan. Often it requires a new building, or an extension of an old one already overcrowded, and the addition of new equipment, supplies, and additional teachers. The small high school is often fed by several small rural elementary schools employing one teacher for eight grades. If two grades are removed, one teacher is still required for the remaining six, but extra teaching

[1] Reported by Wayne W. Soper in "Economical Enrichment of Small Secondary School Curriculum," Yearbook of the Department of Rural Education, National Education Association, 1934, p. 20.

[2] Computed from the data presented in Table 14.

help is needed for these grades in the junior high school. Second, the problem of transportation is a retarding factor. Small elementary schools can be established within a reasonable distance from homes, but in order for a junior high school to have an enrollment large enough to justify reorganization, the student body must be drawn from a wide area. The six-year undivided high school is more popular in small communities, while separate schools are more popular in large ones.

TABLE 14

DISTRIBUTION OF REGULAR AND REORGANIZED HIGH SCHOOLS IN THE UNITED STATES ACCORDING TO ENROLLMENT*

Enrollment	Number of regular high schools	Number of reorganized high schools	Percentage of reorganized high schools
10– 24	1,346	26	0 2
25– 49	2,399	244	9 2
50– 74	2,462	589	19 0
75– 99	1,900	761	28 6
100– 199	3,794	2,613	40 7
200– 299	1,227	1,334	52 0
300– 499	847	1,424	62 5
500– 999	517	1,423	73 0
1000–2499	411	1,033	72 0
2500 and over	153	87	36.2
Total....... . .	15,056	9,534	

* Biennial Survey of Education, 1936–38, *U.S Office of Education Bulletin* 2, 1939, p. 5.

Although these evils are well known, the difficulties involved in ameliorating them are so great that many have come to the conclusion that the small high school is desirable, arguing that the instruction given in the small high school is superior to that of the large because of the individual instruction made possible by small classes. This is probably rationalization. Although there are many advantages of the small high school, it is doubtful if they can compensate for its many disadvantages. However, it is better to have a small high school with all of its attending evils than to deny thousands of boys and girls the opportunity to secure secondary education which would not be possible in any other manner.

More recently, however, remarkable advancement has been made in increasing transportation facilities, making them faster, safer, more pleasant, and less expensive. There has been a strong tendency to increase the size of administrative units, to consolidate schools, to improve taxing methods, and to secure aid from the state for districts too poor to finance a minimum program.

CHARACTERISTICS OF RURAL AREAS WHICH AFFECT SCHOOLS

The Character of Rural People.—Life in rural areas has always been static, unchanging, and conservative. The people, living close to and dependent on the soil and nature for a living, are slow to change. They have developed a high degree of independence because each landowner is his own "boss," and because of partial isolation have been forced to supply many of their immediate needs by their own efforts. Due to this independence, rural people are strongly individualistic. They are also, due to their isolation, suspicious, especially of strangers.

In intelligence, because of a selective migration from the rural areas to the cities or rural villages, rural people are less intelligent than urban people. The more capable got possession of the better land, leaving those of less intelligence to live where life is most difficult. There is much evidence of this selective migration, which has reduced the percentage of those living in rural areas from 60 per cent in 1900 to 56 per cent in 1930, with an actual rural-farm population of only 26.4 per cent.

On Army Alpha, the intelligence test given during the First World War to 36,000 soldiers representing 74 occupational groups, farmers ranked seventh from the bottom. In a survey made by Haggerty and Nash[1] in New York, farmer's children ranked lower than the unskilled laboring class. In 1918, Pinter[2] found his sampling of rural children of New York inferior to urban children. Hinds[3] found a marked inferiority of country children in Indiana in 1922, and Lewis,[4] who studied rural high-school pupils of Tennessee, Kentucky, and Virginia found them 7.5 points lower in intelligence than the median of high-school pupils in general. He found those living on farms lower than those in rural towns.

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[1] M. E. Haggerty and Harry B. Nash, Mental Capacity of Children and Parental Occupation, *Journal of Educational Psychology*, **15** (December, 1924), p. 559.

[2] Rudolph Pintner, "The Mental Survey," pp. 40–50, D. Appleton-Century Company, Inc., New York, 1918.

[3] James H. Hinds, Comparison of Brightness of Country and City Children, *Journal of Educational Research*, **5** (February, 1922), pp. 120–124.

[4] Charles D. Lewis, "Rural Intelligence in Relation to Rural Population," Chap. IV, George Peabody College for Teachers, Nashville, Tenn., 1929.

These differences in intelligence should not be taken too seriously. They represent averages only, and there is much overlapping between rural and urban groups, while many sections of cities will contain groups of lower intelligence than that of many rural sections. These studies represent samples of the country only, and are partly influenced by the nature of the intelligence tests administered, which, perhaps, do not do justice to a rural type of intelligence.

To compensate for this, Lewis found rural youth of Kentucky and Minnesota high schools ranked higher than urban youth on the following four factors:[1]

1. Obedience to authority.
2. Application to study.
3. Purpose in life.
4. Honesty and truthfulness.

These characteristics were accounted for by the following reasons:

1. There is more solidarity of the home in rural areas, and the father is head.
2. There are fewer commercialized amusements, forcing youth to rely on their own resources.
3. Rural youth have long hours of work, less time to play, and fewer companions to tempt them to leave their duties.
4. Chores and duties on the farm required of all rural youth teach habits of industry.
5. Since fewer rural youth attend high school than urban youth, those who do attend are more likely to have a fixed purpose in life.

Percentage of Children of School Age in Rural and Urban Centers.—The great inequalities existing between rural and urban states and between rural and urban districts in wealth, which make it difficult for rural centers to finance an adequate educational program, is further aggravated by the fact that the greatest proportion of children are found in rural areas. As indicated in Table 15, the elementary-school groups including all ages from 5 to 15, comprise 17.6 per cent of the urban population as contrasted with 24.9 of the rural farm, and 20.8 per cent of the rural nonfarm population. Generally speaking, in those sections of the country where there is the most wealth, there are fewer children; where there is less wealth, there are more children.

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[1] Charles D. Lewis, "The Rural Community and Its Schools," pp. 26–27, American Book Company, New York, 1937.

CONSOLIDATION AND TRANSPORTATION

The Advantages of Consolidation.—The number of small high schools is rapidly decreasing (from 60 per cent in 1930 to 46 per cent in 1936) owing to consolidation, that is, the bringing together of two or more small schools to form one large one. The advantages of consolidation may be summarized as follows:[1]

TABLE 15

PERCENTAGE OF CHILDREN OF SCHOOL AGES OF THE TOTAL POPULATION IN RURAL AND URBAN CENTERS*

Age	Percentage of children residing in		
	Urban	Rural farm	Rural nonfarm
Under 5	8 2	11 1	10.5
5 to 9	9 0	12 5	11.1
10 to 14	8.6	12.4	9.8
15 to 19	8 7	11.3	8 9
20 to 24	9.3	8.1	7.8

* Taken from United States Census Report Population, Vol. 1, pp. 588–591, Government Printing Office, Washington, D.C.

1. It makes grouping of pupils and the enrichment of the school program possible.
2. A higher type of teacher can be secured because better salaries can be paid, and the larger school attracts better teachers.
3. It reduces the per-pupil cost, since the same facilities can accommodate a larger number of pupils.
4. It makes efficient supervision possible.
5. It provides a social center for all school and community activities so that community activities can be coordinated with those of the school.
6. Studies have shown that consolidation improves attendance, scholarship, and health.
7. It makes a high-school education possible for many who otherwise would not be able to attend.

Consolidation usually brings higher standards, a longer school term, a better school plant, and better equipment, such as libraries, shops, and laboratories. With a larger group, and more teachers, the single curriculum of the small school can be replaced with a multiple curriculum, thus meeting the needs of all classes of pupils.

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[1] Frederick E. Bolton, Thomas R. Cole, and John H. Jessup, "The Beginning Superintendent," pp. 505–512, The Macmillan Company, New York, 1937.

Disadvantages of Consolidation.—Consolidation usually means that a new school building must be constructed. The existing ones are usually too small to house a larger number of pupils. This makes an original cost which would not be necessary if the schools did not consolidate. Since the consolidated school draws pupils from a wider area, transportation is necessary. This entails the purchase of school busses, the employment of drivers, and adds to the continual cost of operation. If not adequately supervised, transportation may be dangerous, and it necessitates spending as high as two or three hours per day traveling to and from school.

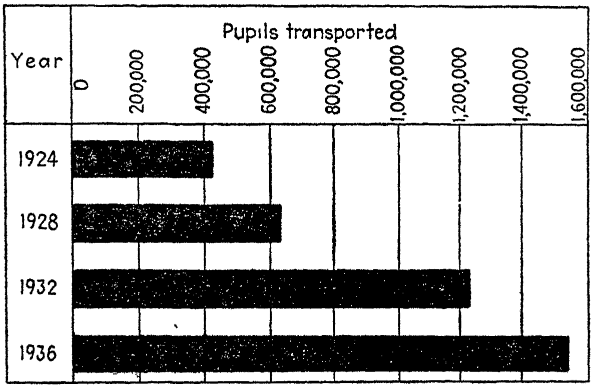

Fig. 6.—Ten-year trend in pupil transportation. Drawn from data presented in *Research Bulletin of the National Education Assocation*, **14** (November, 1936), p. 202.

Many patrons consider consolidation a disadvantage because it removes the local control of the school farther from home. It also breaks old community lines. Many patrons in various local communities who have been supporting a small local high school are reluctant to see it moved to a larger center. They are willing to pay for local pride and for their "rugged individualism."

Consolidation does cost more, but when computed on the basis of the increased service received for each tax dollar, it costs less. Furthermore, since the costs are distributed over a wider area, it often results in a reduction in taxes.

The Transportation of Pupils.—In 1932 about two and one-half million pupils were transported to school at public expense, and, as shown in Fig. 6 about one and one-half million pupils were transported by bus in 1936. If pupils are to be transported safely and economically the school busses should be owned by the district rather than by private individuals. A study made by Roberts[1] of the cost of pupil transportation in Arkansas revealed that the average cost per pupil mile for school-owned busses was less than that for privately owned cars.

Drivers should be well qualified and of enough maturity to be responsible for those transported. The distance traveled should not be so great that pupils will be required to remain on busses more than two hours a day, although many remain as long as three to four hours.

The transportation of pupils to and from school is unrelated to instruction except that it permits pupils to be instructed in schools which would not be accessible otherwise. In order that many pupils may not be denied secondary educational opportunities, public funds have been used in many cases to transport them to private schools.[2] The extent to which pupils may be transported depends upon the development of transportation facilities.

FINANCING RURAL EDUCATION

Rural and Urban Wealth.—Urban centers have large resources on which to levy a tax to support schools, as contrasted with rural wealth. Farms and farm buildings constitute the majority of taxable property in rural areas, and the sale value of these is not a good index of wealth or income. By way of contrast, a tax levy of 50 cents on the 100 dollars in New York would bring $48.40 in revenues for each child of school age, while in Mississippi the same levy would bring $6.10. The former is an urban state, the latter, rural. The same levy for five urban states would bring, on an average, $36.70, for each child of school age; for the five most rural states, $8.02.[3] Stated in another manner, the State of New York can support a better school system by spending 25 cents of each tax dollar on education than North Dakota can by spending 80 cents on each tax dollar.[4] The same differences exist when an urban center is compared with a rural area. For example, in Michigan the poorest township has $750 of taxable wealth behind each census child, and the wealthiest has $25,000. In Tennessee, the range is from $628 to $4,670, and in Arkansas, the poorest district has $25 assessed valuation per child and the wealthiest, $2,400.[1] Furthermore, there are more children to be educated in rural states than in urban.

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[1] Roy W. Roberts, The Cost of Pupil Transportation in Arkansas, *Educational Administration and Supervision,* 21 (January, 1935), pp. 61–67.

[2] For a brief discussion of some of the problems related to transportation, see Walter N. Polakov, Billions Needed for Buildings, *The Nations Schools,* 18 (July, 1936), pp. 17–18.

[3] Lewis, *op. cit.*, p. 55.

[4] Relative Efforts of the States to Support Education, *Research Bulletin of the National Education Association,* 14 (May, 1936), p. 130.

These inequalities in wealth indicate that, if we are not intending to abandon our goal of equal educational advantages for all and an equality of educational costs, it will be necessary to get the money where the money is and spend it where the pupils are.

Direct Property Tax.—The oldest and most common form of supporting schools was by means of the direct property tax. This tax is usually levied by district or county boards of education in terms of mills on a dollar. The state usually sets a maximum amount which can be levied.

There was a time when the value of property was a fair indication of the income which one could derive from it, but shifts from rural to urban centers, the change from a rural to an industrial nation, and farm debts and mortgages have long since made this concept obsolete. It has been overworked, misused, and is condemned by every leading authority on finance. Some of the evils are due to inequalities in assessing the value of property, the exemption of too many persons who are not property owners, and the fact that it is not a true measure of one's ability to pay. There is a growing tendency to shift the source of revenue from the direct property tax to other sources.

Early Aid Given by the Federal Government.—Since the Constitution of the United States does not mention education, it is inferred from the omission that the various states should assume that responsibility. The federal government, nevertheless, has given aid to the states in order to help education, especially in rural areas.

In 1787, the government made land grants to all new states coming into the Union. These consisted of the sixteenth sections of each township and it was believed the revenue derived from this land would materially aid in financing education.

In 1862, Congress voted 30,000 acres of land for each congressman, to be used in establishing agricultural schools. This grant gave rise to the "land-grant colleges," which were either separate institutions or a part of an already existing college or university. This grant was known as the Morrill Act. In 1890, Congress passed an act providing for annual grants for the support of land-grant colleges, and in 1885 the Hatch Act provided federal aid for experiment stations to get a body of subject matter for agricultural schools.

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[1] Lewis, *op. cit.*, pp. 92–93.

More directly concerned with secondary schools were the Smith-Lever Act of 1914, which gave aid to county farm agents and home demonstration agents, and the Smith-Hughes Act of 1917, which gave federal aid to agriculture and home-economics teachers in high schools. In 1936 the George-Deen Act was passed supplementing and increasing the appropriations of the federal government to the states for vocational work.[1] These last acts have done much to promote the study of agriculture and home economics in rural high schools, and have made the positions of teachers of these subjects desirable since their salaries have been increased above the average by the federal grants.

State Aid in Rural Schools.—There is a growing tendency for states to take over the task of helping schools in rural areas. The proportionate amount of the burden each state assumes, the methods of raising funds, and the methods of apportioning them, varies among the states. The percentages of school costs borne by the states for the country as a whole increased from 16.5 per cent in 1920 to 29.38 per cent in 1936. This varied from no state aid in Colorado and Oregon to 92.3 per cent in Delaware.[2]

The state should aid in school support in order to equalize costs, and to give all an equal opportunity. States require schools to be established so they should help by stimulating and equalizing. Furthermore, education is a state function.

Although many states still use the property tax to raise money, they usually have a small property tax and raise the majority of their funds through indirect taxes. The usual methods of raising funds are:

1. Property tax, 24 states use directly, others indirectly.
2. Income tax, 12 states.
3. Sales tax, 17 states.
4. Severance tax, 8 states.
5. Inheritance tax, 3 states.
6. License of various types, 11 states.
7. Chain store tax, 5 states.

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[1] Vocational Education, *Staff Study* 8, The Advisory Committee on Education, Government Printing Office, Washington, D.C., 1938, pp. 14–26.

[2] Biennial Survey of Education, 1934–36, *op. cit.*, Chap. II, pp. 24–25.

The Distribution of State Funds.—The aims of state aid are to equalize and stimulate. It is difficult to do both at the same time, for those most able to raise funds locally are the ones who receive the additional rewards for stimulation purposes. For this reason several schemes have been employed to apportion funds to local areas. Many are long and involved, and only the general principles of distribution will be considered here.

1. The state should bear a large proportion of the cost of instructional service and equipment; the local area, the major portion for capital outlay, maintenance, and transportation.
2. The state should reward effort in employing good teachers.
3. The state should stimulate an increased enrollment and a higher percentage of average daily attendance.
4. The state should encourage or even force schools to consolidate wherever it is to the best advantage to do so.
5. The state should improve efficiency through state supervision.
6. The state should guarantee to each local community a minimum school program after the local community has done all it can in trying to maintain one.

Specific Bases.—Some states, as Arkansas, base their apportionment on enumeration. This does not stimulate enrollment or average daily attendance. In ten states, this is the sole plan.

Aggregate attendance, or number of pupils in average daily attendance multiplied by the number of days school is in session, is used by eight schools. This plan favors the urban schools for they can afford a longer school term.

Eight states use the average daily attendance as a basis. This favors urban centers, for they can maintain a higher average daily attendance.

The district or school basis does not help rural districts where there are few schools.

The number of teachers allowed (used in five states) is an unwise basis, for there is no set ratio of pupils to a teacher.

Summary.—The present chapter has shown how the present organization for secondary education developed into its present state and present methods of modifying this organization in order to bring secondary education to all youth. This has never been a problem in urban centers and in thickly settled rural areas where transportation was easy. Difficulties occur in providing a secondary education for rural areas.

Progress was retarded because of the district system, poor methods of transportation, lack of finances, and small populations. To meet the immediate needs, small high schools were established. Gradually the local school units have been increased in size, and schools have consolidated. Means of financing high schools have also been improved. Local property taxes are being replaced by more state aid from indirect taxes.

There are still many small high schools, but the trends are toward a decrease in this number due to consolidations. Until they can be eliminated, they should be improved.

The type of organization just discussed might be considered external. The next chapter will consider internal reorganization at the boundaries of the high school in order to make the entire school system more unified.

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CHAPTER V

SECONDARY EDUCATION'S BOUNDARIES: ELEMENTARY EDUCATION

The school system of the United States does not represent a planned organization devised by educators and imposed from above with a strong federal system of control. Rather, our elementary school of eight years followed by a secondary school of four years represents the culmination of the growth of two parallel organizations, each of which developed through local initiative, and grew as the nation grew without reference to the aims of the other. During the nineteenth century it became evident that the usual length of the elementary-school division would be eight years, although in many states of the South it was seven and some New England states, nine. Before this time it was indefinite in length. Likewise the secondary-school period was definitely established as four years, making the majority of the schools of the country organized on the 8-4 plan. There was no sound educational basis for the establishment of this type of organization. It was the result of haphazard growth without definite planning.

The system was not to remain long without provoking the criticism of educational leaders. Beginning with President Eliot of Harvard in 1882, and followed by the reports of committees and the criticism of other leaders, the 8-4 plan of organization was attacked, its evils and shortcomings pointed out, and proposals made for a reorganization of the system. In 1909, Berkeley, Calif., reported the first reorganized school which contained an elementary school of six years, followed by a three-year junior and a three-year senior high school. Such a system was designated as a 6-3-3 plan of organization. The reorganization movement thus started soon spread, and today, although the majority (61.3 per cent) of schools are organized on the 8-4 plan or are regular high schools, more than half of the secondary school pupils attend reorganized schools. These are organized as 6-2-2, 6-6, and 6-2-4 schools together with types including the junior college and seven and nine as well as eight years in the elementary division. Because of the many types of schools, and the heterogeneous organization found in the United States, it is justly claimed that we have a nation of schools but do not have a national system of education.

It is the purpose of the present chapter to describe briefly the growth of the elementary schools of the United States in relation to the secondary-school system, in order to reveal the basis for reorganizing the 8-4 plan. Since one of the primary reasons for reorganizing was to secure better articulation between elementary and secondary education, a number of principles will be stated and discussed which might produce greater articulation between the two divisions. The articulation between secondary and higher education will be considered in Chap. VI.

DEVELOPMENT OF THE 8-4 SYSTEM

Up to the early part of the nineteenth century, schools were usually small. As the school enrollment increased, many of these became quite large, and large rooms were required. To meet the needs of an overcrowded condition, assistant teachers were employed and finally the whole group was divided. In 1847 the first graded school appeared in Boston. The elementary school was divided into a primary, intermediate, and grammar division, each with a separate teacher. This system of grading was very informal, the divisions being poorly defined, and the whole period indefinite in length. There were no standards for the completion since the academy had no entrance requirements. The curriculum was expanded to include history, geography, spelling, and grammar in addition to the three R's.

The final steps in grading the elementary school came when pupils were placed in grades on the basis of achievement and age, classes were subdivided, more teachers were employed, and one school was composed of many rooms with a teacher in each. Such progress began in towns with a rise of city superintendents. By 1860, 24 cities had superintendents, and by 1876, 80 per cent of all cities of 8,000 population or over had superintendents.[1] By 1860 it became clear that the elementary school would be either seven, eight, or nine years in length, beginning at the age of five, six, or seven. In New England it was nine, in many Southern states seven, but for the majority of the United States, the period was eight years.

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[1] William A. Smith, "The Junior High School," The Macmillan Company, p. 37, New York, 1930.

The term of the academy was indefinite. Pupils attended until they had accomplished the purpose for which they had enrolled. These purposes were for college preparation, teacher training, general culture, advancement socially, or preparation toward some vocational pursuit. During the early part of its growth, 1751 to 1800, the curriculum was usually organized into a three-year period. Later this was changed to four years.

The term of the first high school (the Boston Classical School) was three years. This was later changed to a four-year term.

Since the majority of elementary schools were organized into eight grades and the high schools into four, by the latter part of the nineteenth century the predominating system was the 8-4 or eight years of elementary followed by four of secondary schooling.

Poor Articulation between Elementary and Secondary Schools. As the enrollment in the academies and high schools increased, the elementary-school enrollment increased also. Compulsory school laws[1] and preparation for the secondary school were two causative factors. The elementary schools became formal as the curriculum expanded and attendance became prerequisite to secondary-school admission, although one did not have to finish the elementary school to enter the academy. The academy was indefinite in length, and overlapped both the elementary school and the colleges. By 1880, the high school was accepted as a four-year school and the most common school type was the 8-4.

Some evidences of the poor articulation between the elementary and secondary school at that time were:

1. Teachers neither thought of nor attempted to have a unified system. They considered each division as independent of the other.
2. Promotional practices were based on examinations rather than on teachers' judgments, and failure and elimination were considered evidence of high standards.
3. Teachers discouraged pupils of less ability than those who could definitely profit by a classical curriculum and who were considered good college risks.
4. There was an abrupt change from elementary to secondary education due to a marked difference in curriculum and in methods of instruction.

It soon became evident that the articulation was not good and educational leaders set out to agitate for reforms.

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[1] Massachusetts had the first compulsory attendance law, passed in 1852.

THE BEGINNING OF REORGANIZATION

Influence of President Eliot.—Charles Eliot, for 40 years president of Harvard University, is usually placed first among the educational leaders who influenced the reorganization of the school system. In 1872–73 through the medium of his annual report, he urged that provision might be made for students to enter college earlier and graduate younger. To accomplish this, he urged that all waste be eliminated from the elementary and secondary-school curricula.[1] He pointed out that the average age of admission to Harvard was past 18. Again in 1888 he presented the same arguments before the Department of Superintendence of the National Education Association, and followed it with another address in 1892. Some of the arguments for reorganization were:

1. In 1886, two-fifths of all freshmen at Harvard were over 19 years of age at entrance.
2. Private and public educational programs should be shortened and enriched.
3. In French secondary schools the pupils are better prepared than in American schools at the same ages. The cause of this is waste in the upper grades of the elementary school and inferior instruction in American schools.

To correct these evils, Eliot recommended that the secondary school dip down into the seventh and eighth grades and enrich them by including foreign languages, high-school mathematics, and natural sciences. He made no reference to the establishment of a new unit.[2]

The Committee of Ten.—In 1892 a committee of ten members, with President Eliot as chairman, was appointed by the National Council of the N.E.A. It was authorized to arrange conferences of secondary-school and college teachers who were to concern themselves with the proper limits and best methods of instruction of all subjects in the secondary-school curriculum. Nine conferences were held, and a report was given in 1893.[3] Although they were not concerned with reorganizing primarily, their report included the following recommendations pertaining to the reorganization of elementary and secondary education:

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[1] Ralph W. Pringle, "The Junior High School," p. 15, McGraw-Hill Book Company, Inc., New York, 1937.

[2] *Ibid.*, p. 16.

[3] Smith, *op. cit.*, p. 73.

1. With the exception of Greek, all secondary subjects should be begun in the elementary school.
2. If algebra, foreign language, geometry, and natural sciences are begun in grades below the high school, secondary education should begin two years earlier, leaving six rather than eight years in the elementary school.
3. The work in English in the seventh and eighth grades should be departmentalized, and whole classics should take the place of readers.
4. Greek and Roman history should be taught in the eighth grade.
5. Concrete and experimental geometry should begin at the age of ten.
6. High-school methods of teaching should be introduced earlier.[1]

The committee implied the principle of consideration of individual differences, and apparently had the 6-6 plan of organization in mind, although it was not recommended.

In 1893 a committee of fifteen, appointed by the Department of Superintendence of the N.E.A., recommended placing manual training for boys and home economics for girls in the elementary grades, as well as substituting algebra and geometry for a part of the arithmetic in the seventh and eighth grades.[2]

Further Movements for Reorganization.—For two decades following President Eliot's addresses before the N.E.A., there was a deluge of committee reports, addresses delivered, and opinions voiced by educational leaders concerning reorganization and means of improving the articulation between the elementary and secondary divisions of our school system. A few only will be mentioned.

Notable among these was the report of the Committee on College Entrance Requirements appointed by the Department of Secondary Education in the N.E.A. in 1894. They recommended that secondary education must begin in the seventh and eighth grades; that these grades should be enriched by eliminating nonessentials and including high-school subjects; that the seventh and eighth grades become a part of the high school; that the period of transition could be made better if a system of special teachers were introduced in the last two elementary grades in order to avoid the shock of the abrupt change in entering high school, and that the last two grades require special methods suited to adolescent needs.[3]

Educational leaders expressed opinions which differed in minor respects, but all of them favored an increased length of the secondary period at the expense of the elementary, and enrichment and modification of the upper grades. Nicholas Murray Butler (1898) urged that six years were sufficient in the elementary school, leaving six years for the secondary. Through the initiative of President Harper of the University of Chicago conferences were called in 1901–02 to study the problem of reorganization of the whole system. In one of these John Dewey expressed the opinion that six years were enough for the elementary schools to accomplish their aims of organizing "certain modes of activity in observation, construction, expression, and reflection," and that six years were necessary in the secondary school to accomplish the aim of "opening the mind to avenues of approach to all the typical phases of nature and society and acquiring a sympathetic knowledge of these areas of life—culture in a word."[1]

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[1] "Report of the Committee of Ten on Secondary-school Studies," pp. 45–74, American Book Company, New York, 1894.

[2] Pringle, *op. cit.*, pp. 17–18.

[3] *Ibid.*, p. 19.

Arguments Advanced by Leaders for Reorganization.—The early agitators for reorganization were advocates of a 6-6 plan of organization, and advanced the following arguments to support the system:

1. *Economy of Time.*—Economy could be effected by shortening the elementary-school period, beginning secondary education earlier, and thus making the entire system shorter; or by eliminating nonessentials in the upper grades of the elementary school which would provide space for an introduction of secondary subjects.

2. *More Gradual Transition from the Elementary to the Secondary School.*—In changing from the elementary to the secondary school, pupils experienced abrupt changes in methods of instruction and discipline, and in the curriculum which made it difficult for them to adjust themselves to the new situation. A six-year secondary period would provide for a gradual rather than a sudden transition by providing two years of intermediate schooling for an orienting period which could be provided with special teachers.

3. *More Suitable School for Adolescent Ages.*—The arguments concerning the need of special treatment for the adolescent were begun before any ambitious studies had been made concerning his unique and peculiar characteristics. The first study of any magnitude was made by G. Stanley Hall in 1904. From earlier observations and Hall's work, it was believed that pupils in the seventh, eighth, and ninth grades constituted more or less a homogeneous group and should be given special consideration.[2] This argument will be evaluated later in this chapter.

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[1] *Ibid.*, p. 21.

[2] Smith, *op. cit.*, pp. 152–53.

During the period from 1900 to 1909, the emphasis shifted from proposals and arguments for a 6-6 school to that of a separate intermediate organization or toward the junior-high-school idea. The arguments advanced by leaders for a junior high school were that such an organization would provide for the following:

1. A suitable environment for the early adolescent.
2. A gradual transition from the elementary school to high school.
3. An economy of time.
4. Differentiated instruction.
5. Guidance and adjustment to curriculum.
6. An earlier differentiated education.
7. A check on withdrawals by enriching the curriculum.
8. A realistic education so pupils could become acquainted with the major activities of humanity.
9. A more flexible curriculum.
10. Introduction of vocational training of a prevocational type and provision for vocational orientation by the exploration of aptitudes, interests, and special capacities.
11. Superior teachers.
12. A reorganization of teaching methods and materials.
13. A democratized system of bridging the gap between the eighth and ninth grades.
14. An introduction of extracurricular activities.
15. A more democratic form of discipline.

The First Junior High School and Spread of Reorganized Schools.—Although several schools had introduced some of the features of the junior high school prior to 1909, the first example of a school organized on a 6-3-3 basis which included a separately organized division for grades 7, 8 and 9 was Berkeley, Calif. in 1909. A year later, Columbus, Ohio, reported a reorganization of her system and Los Angeles organized a junior high school in 1911. By 1914 Briggs reported that 187 cities of populations of 25,000 or more had junior high schools as shown by a questionnaire survey.[1] In 1917–18, about a fourth of the 1,165 schools of the North Central Association reported some form of junior high school, and in the same year the U.S. Bureau of Education reported 557 junior high schools in places of 25,000 population or over.[2] Many of these schools would not have been considered junior high schools if held strictly to the legitimate aims and functions of one. The early definitions as given by the commissioner of education in 1914 was

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[1] "Report of the U.S. Commissioner of Education, 1914," Washington, D.C.

[2] Pringle, *op. cit.*, p. 25.

"an organization of grades 7 to 8 or 9, regardless of where housed—providing for individual differences by various means, especially by the early introduction of prevocational work or of subjects usually taught in the high school."[1] This definition is so flexible that the introduction of a few features would permit one to report a junior high school.

The growth of the movement since 1922 can be seen from Table 16 which shows the increase in the number of reorganized schools to 1938. Since 1934 the number of separate junior high schools has decreased, and the number of 6-6 schools increased. Furthermore the 6-3-3 plan of reorganizing constituted only one of the various plans, for many included other grades as the 8-2-4 plan. In Table 17 is shown the growth of the various types of reorganized schools since 1922.

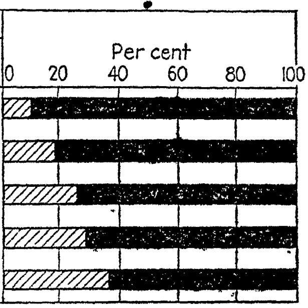
TYPES OF REORGANIZED SCHOOLS

The first types of reorganized schools were on the 6-3-3 plan, that is, separate organizations often housed in separate buildings. In many systems, housing the seventh, eighth, and ninth grades separately relieved the congestion of overcrowded buildings in both the elementary and the high school; in others, where such a condition did not exist, no economy was effected. To establish a separate junior high school required an extra building, and separate equipment, usually a duplication of that in the elementary and senior high school.

TABLE 16

PUBLIC SECONDARY SCHOOL REORGANIZATIONS, 1922 TO 1938*

Year	High schools Reorganized ▨	 Regular ■
1922	11.1	88.9
1926	19.4	80.6
1930	26.0	74.0
1934	28.6	71.4
1938	38.7	61.3



*From Emery M. Foster, "Public Secondary School Organizations," *School Life*, 25 (December, 1939), p. 78, and *Statistics of Public High Schools*, 1937–38, Bulletin 2, 1940, Chap. V, p. 9.

Reorganized schools may be divided into four classes according to the grades included and whether the school represents an undi-

[1] "Report of the U.S. Commissioner of Education, 1912," Vol. I, p. 155.

vided organization or two separate organizations. The most popular types and the number of each is shown as follows:[1]

Junior high schools	Grades 7 to 9	1705
	Grades 7 to 10	254
	Other types	413
	All types	2372
Separate senior high schools	Grades 10 to 12	657
	Grades 9 to 12	210
	Other types	92
	All types	959
Junior-senior high schools	Grades 7–9, 10–12	1727
	Grades 7–8, 9–12	1416
	Other combinations	81
	All types	3224

Undivided junior-senior high schools	Grades 7 to 12	2549
	Grades 8 to 12	188
	Other types	242
	All types	2979
Total of all types of reorganized schools		9534

TABLE 17

NUMBER OF TYPES OF REORGANIZED HIGH SCHOOLS IN THE UNITED STATES FROM 1922 TO 1938*

Type of school	Year				
	1922	1926	1930	1934	1938
Junior high schools	387	1,109	1,842	1,948	2,372
Senior high schools	91	411	648	753	959
Undivided, junior-senior	1,088	1,949	3,287	3,938	6,203
Total	1,566	3,469	5,777	6,639	9,534

* Biennial Survey of Education, 1936–38, *U.S. Office of Education Bulletin* 2, 1940, Chap. V, p. 9.

Almost three-fifths of the total number of reorganized schools were of the junior-senior or the undivided types of schools, although as far as the enrollment was concerned they included few more pupils than the separate junior high schools (see Table 18). In other words, the typical junior-senior high school is only half as large as the typical junior high school, which reveals that the six-year school is being adopted to a greater extent in small communities and the separate school in larger ones. The junior-senior high school is much better adapted to the small community, and many believe it is equally adaptable to the larger community. Some of the advantages of the undivided over the separate school are:

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[1] Biennial Survey of Education, 1936–38, *U.S. Office of Education Bulletin* 2, 1940, Chap. V, p. 33.

1. Greater economy is secured since only one building, one set of equipment, and one administrative office is required.
2. Greater articulation is secured by eliminating the break or gap between the ninth and tenth grades. There is a natural tendency for students to leave school in greater numbers immediately following the completion of any school division, especially if the culminating activity of that division consists of a commencement exercise and the awarding of diplomas.
3. Promotion by subjects is facilitated in the 6-6 plan since both divisions are housed together and one system of records kept.
4. Greater articulation is secured through teaching methods since the same teachers who instruct in the senior high school may be assigned classes in the junior division. This will secure greater continuity, prevent overlapping, and assure more adequate preparation for the latter division, or at least, if pupils are not prepared teachers have no one to blame save themselves.

Although the 6-3-3 and the 6-6 plans of organization are the majority types, there are many others as the 6-2-4, and those including a junior college, as the 6-3-3-2, 6-6-2, the 6-4-4, and the 6-8 plan. The latter type of organization is in effect in Pasadena, Calif. Formerly the system was on the 6-3-3-2 plan, but, in 1928, it was

TABLE 18

PERCENTAGE OF PUPILS ENROLLED IN THE VARIOUS TYPES OF HIGH SCHOOLS FROM 1934 TO 1938*

Type of school	Percentage	
	1934	1938
Junior high schools	18.6	19.0
Senior high schools	11.3	13.1
Undivided, junior-senior	18.9	24.4
Total reorganized	48.8	56.5
Regular (8-4)	51.2	43.5

* Biennial Survey of Education, 1936–38, *U.S. Office of Education Bulletin* 2, 1939, p. 9.

organized on the 6-4-4 basis, and still more recently the school is reported as being a 6-8 school. According to Sexson[1] the eight-year secondary school is neither like the high school nor junior college, although it has elements of both. The school secures greater integration between the high school and the junior college by having teachers teach in various grades. Students of the senior-high-school and junior-college levels participate together in extra activities, and the same group of teachers work out the course of study for the entire system.

The type of school organization of the future cannot be predicted with any degree of accuracy. The trends are toward the six-year undivided secondary schools; but since the school system is expanding vertically, it is claimed by some that the present system of two years of kindergarten followed by six years of elementary, six of secondary, and two of junior college, (K-6-6-2) making a 16-year public school will eventually emerge into a 4-4-4-4 school which will become the predominating type or school of tomorrow.[2] The latter includes the kindergarten and goes through the junior college.

EVALUATION OF REORGANIZED SCHOOLS

The first junior high schools were established on claims which had not been evaluated save in a philosophical manner. Many of the proposals sounded reasonable, so they were accepted. Criticisms against the 8-4 plan of organization were just, so any innovation was welcome in order to improve the situation. The junior high school had not long been in existence before those who either doubted the claims or desired concrete verification of them began the process of evaluation.

The Effect on Elimination.—One of the earliest arguments for establishing a junior high school was that it might reduce the large amount of elimination at the end of the eighth grade. The extent of this elimination was revealed through studies made by Thorndike, Ayers, and Strayer.

In a study of 23 cities of population 25,000 and over made by Thorndike[3] in 1907, it was found that there was 46 per cent elimination from the seventh grade and 60 per cent from the eighth grade. Each percentage was based on the previous year's enrollment. Ayers[1] found 30 per cent elimination from the seventh grade and 50 per cent from the eighth in a study of 58 cities, and Strayer[2] in a survey of 319 cities found 37 per cent elimination in the seventh grade and 49 per cent in the eighth. Estimates made of the elimination from the first year of four-year high schools show 73, 60, and 61 per cent respectively by Thorndike, Ayers, and Strayer.

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[1] John A. Sexson, A New Type of Secondary School, *Bulletin of the Department of Secondary School Principals,* **22** (February, 1938), pp. 1–11.

[2] Arthur B. Moehlman, "School Administration," pp. 544–547, Houghton Mifflin Company, Boston, 1940.

[3] E. L. Thorndike, "The Elimination of Pupils from School," *U.S. Office of Education, Bulletin* 4, 1907, pp. 11–47.

To evaluate the claims that the junior high school would result in greater holding power and arrive at a valid and reliable conclusion is almost an impossible task. Although some studies have been made and some conclusions drawn claiming superiority of junior high schools, especially for boys, it is doubtful if much confidence can be placed in them. Too many factors were uncontrollable. For example, elimination due to illness, death, moving from the community, and extreme destitution of parents is not affected by reorganization, so any differences with these as causes would be due to chance. The majority of junior high schools are found in urban centers, so it would be fallacious to compare the holding power of a junior high school in an urban center with a nonjunior high school in a rural center. Likewise, one city cannot be compared with another. Each school must, if valid results are to be secured, be compared with itself. This would not suffice, for other conditions have changed since reorganization. Compulsory school laws have increased, child labor laws have been improved, opportunities for employment have decreased and secondary education has become more popular. There has been a steady increase in the percentage of the school population attending the secondary school, and to say that reorganization is the cause, or to control all other factors in order to show the influence of reorganization, is hardly possible. This claim is summarized by Koos as follows, and although it was written in 1927, is still valid:

> Thus the seeker after evidence to support the contention that the junior high school tends to prolong the pupils' educational career must satisfy himself with an almost total absence of conclusive factual material.[3]

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[1] L. P. Ayers, "Laggards in Our Schools," p. 71, Russell Sage Foundation, New York, 1909.

[2] G. D. Strayer, "Age and Grade Census of Schools and Colleges," *U.S. Office of Education Bulletin* 5, 1911, pp. 6, 135–136.

[3] Leonard V. Koos, "The Junior High School," p. 27, Ginn and Company, Boston, 1927.

Economy of Time.—Many of the earliest arguments for an economy of time were to shorten the school term rather than to effect an economy through reduced retardation and failure, and enriched curriculum through the elimination of nonessentials. In many states of the South (Virginia, North Carolina, South Carolina, Georgia, Louisiana, and Texas) the elementary course was only seven years in length. In 1926 there were 431 high schools on the Southern list organized on the 7-4 basis and in the same states 323 on the 8-4 or other plans. Statistics were gathered for six years in institutions from which graduates of 754 schools entered. There were 32,774 college freshmen included in the study comparing the 7-4 students with the 8-4. The result revealed no measurable differences between the two groups. Also those cities, as Savannah and Atlanta, which changed from the 7-4 plan to either the 8-4 or 6-3-3 plans were unable to see any advantages of the added year.[1]

In 1925 Salt Lake City changed from a 6-3-3 type of organization to the 7-4 plan, thus shortening the school period from 12 to 11 years. In 1929 the first classes under the 11-year plan were graduated. These graduates, 167 and 217 of the 12-year school, entered the University of Utah the following year. On the basis of marks earned during the school year 1929–30, the 11-year group maintained a higher standing, although they were one year younger. The results were in accord with their high-school marks and psychological test scores.[2]

It is not surprising that the 11-year group succeeded as well as the 12-year group. Success in college is not dependent to any great extent upon the acquisition of factual information from high school. Both groups possessed the tools of learning, and both were mature enough to succeed. If one crowds a 12-year curriculum into 11 years, it is doubtful that one can demonstrate any marked differences between those who were given 12 years for the course and those who completed it in 11. The chief differences would be in maturity and the development of certain attitudes and concepts which cannot be hastened to any great extent and which are difficult to measure.

Another method of saving time was that of enriching the curriculum of the seventh and eighth grades by eliminating the nonessentials and introducing secondary-school subjects earlier. The last two years of the elementary school, to a great extent, repeated the work of the fifth and sixth grades. This repetition is often referred to as "marking time." An examination of the junior-high-school curriculums will reveal the changes that have been made. Instead of the usual offerings of reading, writing, arithmetic, spelling, geography, history, and hygiene, in grades 7 and 8, one will find such subjects as composite mathematics, junior-high-school science, social studies, English, physical education, music and drawing, and integrated activities. In many schools the study of foreign languages is begun, and in others shopwork and home economics are offered. The enrichment of the curriculum does not shorten the school period, but it does effect an economy by giving pupils more experience in the same amount of time.

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[1] The 7-4 Plan Again, *The High School Quarterly*, 14 (January, 1926), pp. 68–70.

[2] A. E. Arneson, Shortening the Preparation for College in Salt Lake City, *School Review*, 41 (September, 1933), pp. 531–538.

The economy-of-time claim was also investigated from the standpoint of progress, failures, and repeating courses in junior and non-junior high schools. Fritz secured data from the records of 45,828 pupils from junior and non-junior high schools of Iowa, concerning pupil's progress through school. Normal progress was considered a grade a year. He found that pupils attending 6-3-3 schools had higher progress rates than those of the 8-4 schools. He found that only three-fifths as many semesters were lost in grades 7B in the 6-3-3 schools as in the 8-4 schools, and only one half as many semesters were lost in grades 9B and 9A in the 6-3-3 schools as in the 8-4.[1]

Bridging the Gap.—The gap formed between the eighth and ninth grades due to the abrupt changes in subject matter and methods of instruction was one of the arguments for reorganization. It was believed that the junior high school would bridge the gap by the gradual introduction of new subjects and methods of instruction. Fritz investigated this claim also and found that the 6-3-3 schools merely delayed the gap one year rather than bridged it.[1]

Reorganization in and of itself cannot assure greater articulation between the elementary and secondary schools. Changes in the curriculum must be gradual and continuity must be maintained. The teachers must engage in a period of orienting and guiding junior-high-school pupils in order that they will become accustomed to new methods of instruction and such new features as departmentalization and sectioned groups. In the elementary school, the pupils, in most cases, had one teacher for the entire day who taught all subjects. Pupils quickly became accustomed to her and were not required to make adjustments to different teachers for each class as in the junior high school. The situation could be further remedied by having fewer teachers in the seventh grade and by gradually introducing departmental work and a larger number of teachers.

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[1] Ralph A. Fritz, An Evaluation of Two Special Purposes of the Junior High School: Economy of Time and Bridging the Gap, *University of Iowa Studies in Education*, 4 (November 15, 1927), pp. 1–80.

Scholarship.—Comparing junior- and non-junior-high-school pupils in scholarship is difficult. Such factors as teaching methods, ability of the pupils, and subject matter which are difficult to control must be held constant if comparisons are to be made valid. A few studies, however, have been made with respect to scholarship.

The achievement of junior-high-school pupils in the common integrating knowledge and skills was compared with that of pupils attending the conventional eight-grade elementary schools in Syracuse, N. Y. There were 638 pupils in the former groups attending three-year junior high schools, the junior division of nine- and six-year secondary schools, and 546 pupils attending the conventional eight-grade elementary schools. Past achievement and mental ability were determined by the Terman Group Test of Mental Ability and the Stanford Advanced Examination. It was found that the junior-high-school pupils excelled the non-junior on both the achievement and the mental tests. When compared on such factors as industry, accuracy, initiative, reliability, cooperation, and leadership, the junior-high-school group excelled, and significantly so, on all save accuracy, with industry not significantly greater but approaching a true difference. The author concluded that with the factor of intelligence held constant "it is evident that junior high schools with their broad curricula, their extracurricular activities, and their pupil initiative can do just as efficient work in the formal subjects of the curriculum as the conventional schools, and possibly better in reading, literature, and language usage."[1]

Powers compared the achievement of junior- and non-junior-high-school pupils in Minneapolis. The grades included were the seventh and eighth. He found that the achievement of non-junior-high-school pupils was higher than that of the junior-high-school group; but when the factor of intelligence was held constant by making the comparison on the basis of achievement quotients, he found no difference between the two groups. This was accounted for by the fact that superior intelligence-test scores were made in the non-junior-high-school groups. Powers also found that retention seemed to be better in the junior high schools and the rate of promotion better, which facts might account for the superior achievement and intelligence-test scores in the non-junior high schools.[1]

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[1] Harry P. Smith, The Relative Efficiency of the Junior High Schools vs. the Conventional Eight-grade Type of School, *Journal of Educational Research*, **29** (December, 1935), pp. 276–280.

To determine if there were any marked difference between pupils in the senior high schools and freshmen in The Ohio State University who came from reorganized and conventional types of schools, Landsittel compared the marks of 63 pairs of students in mathematics and 129 pairs in science. The results all favored the non-junior-high-school groups, although none of the differences were great enough to have statistical significance.[2]

Believing that the shortened period in the elementary school due to reorganization might have an effect on the acquisition of fundamentals in grades seven to nine, Beatley compared the achievement of pupils in three school systems. In order to obviate the influence of irrelevant factors, he paired the pupils on the basis of sex, chronological age, intelligence quotients, and educational age. Since he found no differences favoring either group, Beatley concluded that neither school had demonstrated its superiority over the other in achievement of fundamentals, and that the junior high school is justified in alloting less time to the fundamentals in reading, language, and arithmetic for it has not hampered the growth of the pupils.[3]

The Junior High School and Puberty.—One of the earliest arguments for reorganizing was that the pupils of the junior high school, or of grades 7 to 9 would constitute a homogeneous group with respect to puberty. Since 1900 many investigations have been conducted to determine the average age at which boys and girls reach puberty and the range from the average. These investigations have revealed that the junior high school does not constitute a homogeneous group, but one containing wide differences with respect to stages of pubescence. As shown in Table 19 which reveals the changes which took place among 573 boys from January to June of 1930, during a given time there will be prepubescent, partially pubescent, and pubescent pupils in the same grade, and six months later the percentages of each will have changed.

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[1] J. O. Powers, "The Junior High School: A Study of Instructional Results in a Typical City System," pp. 108–111, University of Minnesota Press, Minneapolis, 1927.

[2] E. C. Landsittel, Scholastic Accomplishments in the Junior High School, *Journal of Educational Research*, 18 (September, 1928), pp. 127–135.

[3] B. Beatley, "Achievement in the Junior High School," pp. 78–79, Harvard University Press, Cambridge, Mass., 1932.

TABLE 19

DISTRIBUTION OF 573 BOYS ACCORDING TO STAGES OF PUBESCENCE IN JANUARY AND IN JUNE, 1930*

Stages of pubescence	January, 1930		June, 1930	
	Number	Per cent	Number	Per cent
Prepubescent	95	16.6	77	13.4
Partially pubescent	95	16.6	102	17.8
Pubescent	383	66.8	394	68.8
Total	573	100.0	573	100.0

As shown by the percentage distribution of 796 boys from the ages of 12 to 16, which covers the junior-high-school period, at no age is the group alike with respect to physiological development (Table 20). Between the ages of 12 and 16 the greater percentages are at the same stage, but in the other years they are divided between the three stages, prepubescent, partially pubescent, and pubescent. Although girls mature earlier than boys they will show the same degree of variation, which makes the group less homogeneous if coeducation is practiced, for girls will be further advanced than boys for any given age or grade. Junior-high-school pupils are made still more heterogeneous with respect to physiological development, because of the age range of a given grade caused by under- and overageness. The greatest single group in the elementary school is prepubescent; in the senior high school the majority are postpubescent. This leaves the junior high school composed of pupils between these two extremes who are at all stages of development. It has been found that high school pupils are not homogeneous with respect to any measure of development, and there is little justification for establishing a separate school for grades 7 to 9 on this basis alone.

Opinions of Teachers.—Briggs secured the opinions of teachers as to which type of organization they preferred—the 6-3-3 type or the 8-4. The response to his questions revealed that a major criticism against the 8-4 plan was the large gap between the eighth and ninth grades and that the junior high school would remedy this condition. The teachers believed that six years were enough for

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[*] W. K. Layton, The Problem of Pubescence in Junior High School Boys, *School Review*, 40 (October, 1932), p. 599.

the elementary school to adequately perform its functions. The organization of the junior high school requires to a considerable degree the simultaneous reorganization of the upper grades of the elementary school, and of the senior high school. Since this has never been followed, the results by way of greater articulation cannot be evaluated.

TABLE 20

PERCENTAGE DISTRIBUTION OF THE STATUS OF PUBESCENCE OF 796 BOYS FROM AGES 12 TO 16*

Chronological age	Prepubescent	Partially pubescent	Pubescent
12	88	8	4
13	56	29	15
14	30	28	42
15	12	19	69
16	5	10	86

* W. K. Layton, The Problem of Pubescence in Junior High School Boys, *School Review*, **40** (October, 1932), p. 600.

Some of the criticisms against reorganized schools were that they give too much pupil freedom and pupil responsibility, and not enough adult supervision and guidance. They were also criticized on the basis that the curriculums were so full of activities that consumed all the teacher's time they had no time left to prepare for classwork. To be a success, the aims of the junior high school must be more adequately expressed in practice than in theory. Briggs concluded that "There is no doubt that the junior high school has made valuable contributions to the betterment of the education of children in their early adolescent ages."[1]

Legislation Concerning the Junior High School.—A survey of legislation concerning the junior high school in the various states conducted by Gary indicated that legislation followed rather than led the movement for reorganization. All states have reorganized schools, but the movement has proceeded more rapidly where there are the oldest and most complete statutes. This would lead one to believe that legislation led the movement if it were not noted that reorganization came first. In no state is the establishment of a junior high school mandatory to a district, although none withholds the right to organize. The trend is for the states to set the standards if they do have junior high schools.

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[1] Thomas H. Briggs, Has the Junior High School Made Good? *Educational Administration and Supervision*, **24** (January, 1938), pp. 1–10.

With reference to support, 14 states make provision for state aid. In some cases, the funds come from the high school, while in many the seventh and eighth grades are supported from the elementary-school levy, and the ninth from the secondary. In Michigan, Montana, and Tennessee the state places the junior high schools on a par with the senior with reference to support.[1]

PROBLEMS OF ARTICULATION

Good articulation between the elementary and secondary school cannot be achieved by an administrative change or a change in organization alone. The junior high school makes provision for greater articulation and facilitates it, but does not necessarily produce it because of any inherent powers. According to Briggs, "The ideal organization of schools would provide an uninterrupted, continuously adjusted education for every pupil until he reaches the maximum development possible."[2] This aim can be accomplished with or without the junior high schools. However, since the junior high school is at no point wholly like either the elementary school or the senior high school, it serves as a transition period. It has elements in common with both the upper and lower division, and also has some features and functions peculiar to it alone.

Causes of Inarticulation.—There are several features that do or may cause poor articulation, which may be defined as anything in the school system causing delays and stops over which the pupil has no control. These may be considered as factors or lack of certain factors which will retard or hinder pupil's progress. Engelhardt and Overn enumerate the following adjustments which must be made in order to secure good articulation.[3]

1. Closer relation between all grades in materials and methods.
2. Slow change from one-teacher to many-teacher plan.
3. Slow change from work well supervised to that which is independent.
4. Gradual introduction of new subject matter.
5. Gradual introduction of electives.
6. Gradual change in method of discipline.
7. Earlier instruction of differential subjects for different groups.

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[1] Stephen Gary, Legislation on the Junior High School, *School Review*, 46 (June, 1938), pp. 428–436.

[2] Thomas H. Briggs, "Secondary Education," p. 289. By permission of The Macmillan Company, publishers, New York, 1935.

[3] Fred Engelhardt and Victor Overn, "Secondary Education, Principles and Practices," p. 155, D. Appleton-Century Company, Inc., New York, 1937.

8. Promotion of pupils by subjects rather than by grades.
9. Exploratory subjects for better diagnosis of pupils.
10. Provision for those leaving school early.
11. Preventing retardation and elimination.
12. Retaining pupils longer in school.
13. Materials and methods more adapted to pupils.
14. Guiding pupils into the best activity after leaving school.

Promotional Policies.—There is a very definite tendency to promote pupils from one grade to another without maintaining any definite standards. One year in each grade, provided the pupil has been in attendance a sufficient number of days, is considered sufficient. The majority of superintendents have stated that they adhere to the policy of receiving pupils in the junior high school from the elementary school without maintaining any definite standards, and, similarly, pupils are received in the senior high school from the junior high school.[1] These liberal tendencies are merely policies and not considered ironclad rules of promotion. Certainly there are conditions which might make it advisable to require a pupil to repeat a grade or subject in order to have a better preparation for the work of the next higher grade. Flexibility and judgment are needed in the execution of all policies, but if this one is accepted and used in determining promotions, greater articulation will be secured. One should always bear in mind that preparation for high school is not the primary purpose of the elementary school.

College Entrance Requirements and the Junior High School.—College entrance requirements based on 15 units of high-school work were common before the junior-high-school movement became widespread. Since only 12 units are normally earned in the senior high school, it is necessary to include the work of the last year of the junior high school in the transcript in order to make 15 units. This practice resulted in a partial domination of the junior-high-school curriculum by the colleges which acted as a damper on an enriched curriculum. It also resulted in considering the ninth grade as belonging more to the senior than to the junior high school. That this practice is disappearing is evidenced by the fact that in 1930 there were 32 per cent of the 517 colleges in the United States which admitted pupils on the basis of 12 units or the last three years of high school. Forty-one per cent had not adopted this practice.

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[1] "Five Unifying Factors in American Education," Ninth Yearbook of the Department of Superintendence, National Education Association, pp. 79–86, Washington, D.C., 1931.

Summary.—Beginning with 1909, high schools have been reorganized until at present over one-third are so classified. These enroll over half the pupils. Many of the claims which furnished the basis for reorganization have not been substantiated by experimentation; but no one has demonstrated the inferiority of the junior high school. Even though it cannot be demonstrated that reorganization results in greater holding power, better scholarship, and greater articulation, there are other features which more than justify the change, such as an enriched curriculum, homogeneous grouping, departmentalization, earlier introduction of secondary-school subjects, and an activity program. Although greater articulation between the elementary and secondary school has not been an outstanding outcome, it would be safe to say that it has produced greater articulation, and has made provision for a closer relationship which could hardly be achieved by the 8-4 plan.

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CHAPTER VI

SECONDARY EDUCATION'S BOUNDARIES: HIGHER EDUCATION

The aims, functions, and purposes of the three divisions of our school system, elementary, secondary, and higher, are not fundamentally different. All have the same general aims, but differ in the emphasis placed upon various phases. The elementary school is concerned with the masses and aims to create a literate people, and teach fundamental principles; the secondary school furthers these aims, is beginning to be extended to the masses, and furnishes a foundation for vocational training. Colleges and universities are not designed for the masses, but to give advanced technological training for those who are to fill professional, managerial, and technological positions, but these are not the only functions of institutions of higher learning.

The late President L. D. Coffman of the University of Minnesota gives the following characteristics and functions of a state university.[1]

1. To advance learning through study, research, and inquiry into various fields, and maintain freedom to learn.
2. To advance personal culture.
3. To elevate the aesthetic and personal ideals and practices of students.
4. To disseminate knowledge, especially to the adult population.
5. To develop and train leaders.
6. To gain an understanding of society.
7. To give instruction in subjects designed to fit one for the practice of some vocational skill.

DEVELOPMENT OF HIGHER EDUCATION

Early American Universities.—The founders of Harvard in 1636 merely transplanted the European idea of a university in America, with Cambridge as a model. The curriculum of Harvard in 1642 consisted of logic, metaphysics, ethics, politics, mathematics, astronomy, Greek, dialectic, declamation, Chaldean, and translation of the Bible from the Hebrew to the Greek into Latin. For the first century the enrollment never exceeded 20 students. The chief purpose and aim was to train boys for the ministry.

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[1] L. D. Coffman, Building a State University, *Journal of the American Association of University Women*, 29 (January, 1936), pp. 67–72.

The College of William and Mary, founded in 1693, was established from the Episcopalian Church of England so that the church of Virginia might have "ministers of the gospel." Yale, a Congregational church school, was modeled after the University of Edinburgh. It started in 1701 as a "Collegiate Institute," and became a college in 1745. Its aims included training for the "civil state" as well as for the ministry. The University of Pennsylvania grew out of Benjamin Franklin's Academy, founded in 1751, and is one of the few early colleges which does not owe its existence to the zeal of religious organizations to train youth for Christian ministers.

Denominational Universities.—As various denominational groups increased in membership they established schools to train ministers in their own faith. Besides Harvard, Yale, and William and Mary, the following denominational schools were established before the Revolution: Princeton, founded by the Presbyterians in 1746; Dartmouth, by the Congregationalists in 1769; King's College, now Columbia, founded by the Episcopalians in 1754; Brown University, founded in 1764 by the Baptists; and Rutgers in New Jersey, founded in 1766 by the Dutch Reform Church.[1]

Slowly these schools became nonsectarian in character. Their aims became broader, and their curriculums expanded to include more modern subjects. They were largely supported by private contributions and fees, and were obliged to seek their charters from England. Most of the students were of ages now regarded as secondary-school ages. The average age of entering was about 15½ years.

The Rise of State Universities.—After the Revolutionary War the various states soon undertook the responsibility of articulating or unifying all the educational institutions of the state under one head called a "University of the State." This was a much broader concept than that usually thought of when one thinks of a state university. This was done in New York (1784), and today all educational agencies supported by the state are under one institution known as the University of the State of New York. The attempt failed in Louisiana to start the University of New Orleans, but succeeded temporarily in Michigan in 1817. The idea perhaps came from France, which has the Imperial University of France, started by Napoleon in 1806 and the central authority of all the schools of the nation.[1]

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[1] Frederick Eby and Charles Arrowood, "The Development of Modern Education," pp. 21–22, Prentice-Hall, Inc., New York, 1936.

From 1780 to 1830, 65 colleges and universities started in the United States, and from then to 1900 the growth was more rapid. In 1936 there were 536 public and 1,159 private universities, colleges, and professional schools in the United States.[2] Some of the reasons for this growth were (1) an acceptance by the state of the idea that control and support of education was essential to the stability of democracy, (2) an expansion of the curriculums to include the training of servants for the state rather than the narrower aim of training ministers for the Church, (3) a separation of the Church and state in education, (4) a growing and developing country in industrial, economic, and political activities, and (5) a recognition of the necessity of having three divisions to the educational system: elementary, secondary, and higher, each of which is essential.

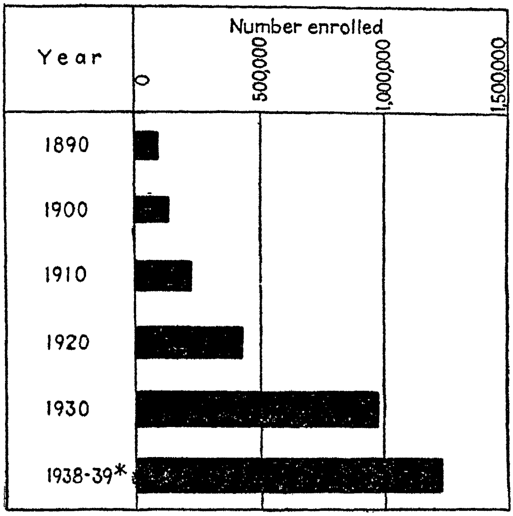

FIG. 7.—Growth of college enrollment in the United States from 1890 to 1939. (Biennial Survey of Education in the United States, 1934–36, *U. S. Office of Education Bulletin* 2, 1937, Chap. IV, p. 7;* Education in the United States, *U.S. Office of Education Bulletin* 3, 1939, p 42.)

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[1] *Ibid.*, p. 564.

[2] Statistical Summary of Education, 1935–36, *U.S. Office of Education Bulletin* 2, 1937, p. 2.

College Enrollment in the United States.—From 1890 to 1939 the total enrollment in colleges and universities of the United States increased from 74,000 to 1,208,227 (Fig. 7). This increase was more rapid than that of the general population, but not nearly so rapid as the growth of the high schools. The ratio of men to women is about 1.4 (men 709,672 and women 498,555), indicating that higher learning has been more attractive for men than for women. The situation is reversed in teacher's colleges, and teacher-educating departments of other colleges, in which there is a majority of women.

In 1938–39, there were 143,125 students who received bachelor's degrees, 18,302 who received master's degrees, and 2,770 who received doctor's degrees. Of the latter, 2,370 were men and only 400 were women.[1]

ARTICULATION OF SECONDARY AND HIGHER EDUCATION

The problem of articulating the high school and institutions of higher learning is not new. Due to the fact that the three divisions of our school system were established more or less independently of each other, problems of unifying them were inevitable. Inarticulation resulted because of an overlapping among divisions, a lack of continuity, gaps, and an indefinite concept of the purposes of each division. The greatest problems of articulation are concerned with the curriculum, which should be adjusted to the pupil in the light of the purposes of each division.

During the time of the Latin grammar school there were few problems of articulation, for the purpose of the secondary school was largely to prepare boys for college entrance. Problems developed with the coming of the academy and high school, due to the increased enrollments, and the increased expansion and development of colleges. These changes were partly a cause and partly the result of increased enrollments and expanded curriculums, and a change in the aims, functions, and purposes of each institution.

Factors Encountered by the High School in Securing Articulation.—The increased secondary-school enrollment has brought into the school pupils with different ambitions and intentions concerning their futures after graduation. Roughly speaking, there are two classes: those who will or are planning on attending other schools after graduation and those who will or are planning on entering industry immediately after graduation. It is impossible to divide all pupils into these two definite groups, for many who intend to go to college are prevented, and many who did not plan to do so finally go. Among those planning to attend institutions of higher learning are those who in varying degrees are competent for success, those who are doubtful, and those who definitely are not college material. The problem of selecting these pupils and giving them the proper training and guidance is one of the big problems of the secondary school.

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[1] Education in the United States, *U.S. Office of Education Bulletin* 3, 1939, p. 42.

The number of high-school graduates continuing their education into college is increasing, but the percentage is decreasing. Since 1918 the percentage of high-school graduates enrolling in college or some other high institution dropped from 51.8 per cent to 29.2 per cent in 1937.[1] Likewise, the percentage of those entering or finishing high school who will either attend or finish college is decreasing. For every 100 who start into high school on an average about 55 will graduate. Of these, less than one-third, or about 17, will enroll in college the following fall, and about 55 per cent of this 17, or 8 to 9 students, will eventually graduate.[2]

Problems are also introduced because of the difficulty in determining the exact purposes of colleges and how they differ. School officials as well as parents are often at a loss to know where to send their children. Academic colleges should be able to make the parents and students understand precisely to what their programs lead, which would make the problem of articulation clearer.

At present, many misfits would be spared the disappointing experience of failure or of starting to college and not finishing, if all colleges would more clearly define their purpose, and let these be known to both prospective students and their parents. It is easy for colleges to expand their services beyond their facilities in order to attract more students until the original character of the institution is submerged. Colleges differ in their purposes, in their curricular offerings, and in the abilities of the students attending. An improved guidance program in the secondary school will aid the students in selecting that school which will best give the training desired. The institution is not at fault if a student who wishes to be a doctor matriculates in a teacher's college, but it is at fault if it tries to train him to be one.

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[1] E. M. Foster, School Survival Rates, *School Life,* **22** (September, 1936), pp. 13–14, and Statistics of Public High Schools, 1937–38, *U.S. Office of Education Bulletin* 2, 1940, p. 15.

[2] John H. McNeely, College Student Mortality, *U.S. Office of Education Bulletin* 11, 1937, pp. 8–11. Studies show that those who eventually finish brings the percentage from about 45 to 55 per cent. Foster gives 45 per cent as the number graduating.

Factors Encountered by Colleges and Universities in Securing Articulation.—In an investigation made by Brammell[1] for the National Survey of Secondary Education, universities and colleges enumerated 35 difficulties encountered by them in trying to secure greater articulation with the secondary schools. The nine mentioned by the author were:

1. Lack of cooperation from the state department of education.
2. Lack of cooperation from the secondary schools.
3. Entrenched opinion in the college faculty.
4. Influence brought to bear by standardizing agencies, tending to minimize freedom.
5. Lack of specific subject guidance in secondary schools for pupils planning to enter college.
6. Lack of secondary-school guidance of pupils into appropriate activities after graduation.
7. Lack of objective evaluation of the already existing entrance criteria.
8. Lack of well-organized guidance work in colleges and universities.
9. Lack of effectiveness in colleges and universities in properly orienting and instructing freshmen.

The difficulty reported as encountered by the greatest percentage of the colleges and universities was that of a "lack of specific subject guidance in the secondary schools for pupils planning to enter college." This does not necessarily imply a belief that some subjects are more potent in preparing for college than others, but that if the high schools will determine aptitudes, interests, and capabilities, and guide pupils into courses in keeping with these, they will not have to wait until they enter college to explore for those courses in which they can profit.

In addition to the nine difficulties reported, others were (1) lack of instruction in secondary schools in how to study for college courses, (2) lack of subject standards of achievement in secondary schools, (3) encroachment of high schools on college subjects and (4) wide differences in secondary-school standards.[2]

One of these, "lack of instruction in high schools in how to study for college courses," is not valid. High-school teachers should teach pupils how to study specific courses being pursued at the time and instruct them in general techniques of study. College instructors should teach specific techniques for studying college courses. It must be kept in mind that preparation for college is only one of the functions of the high school, and that very few of those in high schools will enter and still fewer will finish college. Teaching a pupil to study high-school courses is the best preparation for study of subsequent courses.

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[1] National Survey of Secondary Education, Monograph 10, *U.S. Office of Education Bulletin* 17, 1932, pp. 82–83.

[2] *Ibid.*, p. 82.

Several plans were reported by Brammell as practiced by colleges in orienting entering students and causing closer articulation between the two divisions.

One group of the methods employed was concerned primarily with improving the articulation between high schools and colleges by direct contact and cooperation. The other dealt with orienting the students after they had enrolled. Among the former methods reported in use, the five most frequently used and the percentage of colleges reporting them were:

1. Cooperation with the state departments of education, 45 per cent.
2. Cooperation with accrediting associations or the state and national educational associations, 44 per cent.
3. Evaluation of college records of students from certain high schools, 31 per cent.
4. Maintenance of a "go-between" official who contacts the secondary schools, 31 per cent.
5. Special conventions for college and secondary school authorities.

The methods reported as most frequently employed by 517 institutions of higher learning for helping freshmen students make better adjustments were:[1]

	Per Cent
Freshman week	15
More rigid entrance requirements	15
Better instruction	12
Orientation courses	11
Educational guidance	10
Ability grouping	9
Review courses	6
More reliable marking	4

According to Knode[2] the chief problems recognized as causing the greatest amount of student difficulties after entering college are:

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[1] *Ibid.*

[2] Jay C. Knode, Orienting the Student in College, *Contributions to Education* 415, Teachers College, Columbia University, 1930, pp. 24–28.

(1) lack of sufficient mental capacity, (2) inadequate or faulty study habits, (3) improper adjustment to courses, (4) lack of definite objectives and driving power, (5) distractions and worries, and (6) lack of proper outlets—physical, social, and mental.

WHO SHOULD ATTEND COLLEGE?

As colleges are now designed, only a small number of the total population can afford to attend them for only a few can profit by the instruction given. Originally, universities were designed to train only in the major professions: medicine, theology, law, and teaching. This was true up to a few generations ago. Gradually it was realized that the service of a university should be extended to include the training of other public leaders, and other vocational groups at public expense for their training benefited society as a whole. The increasing complexity of society demanding a greater variety of leaders accentuated the movement, and new courses and new departments were added. This expansion increased also as learning and knowledge increased. As a body of subject matter was developed, new courses were offered meeting the needs of a greater number of people, so that today the majority of universities offer instruction in law, medicine, teaching, the ministry, engineering, business, agriculture (including home economics), and pharmacy, while a few are extending their services to the training of photographers, mechanics, policemen, firemen, barbers and beauticians, and embalmers. Those who intend to pursue vocations of this nature or professions, and who have the aptitude, interest, and drive to profit from the courses offered, should attend colleges and universities which can prepare them in these fields.

Reasons for Attending College.—Many students attend liberal arts colleges for reasons other than preparation in specific vocations. The benefits they secure are in terms of increased cultural training, social training, and contacts, or the social prestige derived. Although desirable, only a few can afford to attend college for these reasons. If there were no other values, it would be an expensive luxury, not only to the individual but also to the state. Since the students pay only a part of the cost of maintenance and instruction, the state feels justified in meeting the additional expense for this group, for it profits indirectly, because, regardless of the student's motives, there are certain desirable concomitant outcomes produced along with the student's primary ones. These are, or should be, increased health, proper attitudes, ideals and skills fitting one for home, civic, and community leadership, and a general foundation for some vocational pursuit.

If the colleges, like the high schools, attempted to meet the needs and capacities of all who attended or desired to attend, all youth could profit by attendance; but since they do not, only a select few should attend. After the United States has provided secondary education for all, she may extend her goals to include training beyond secondary. If this time ever arrives, it will be necessary for the colleges and universities to provide instruction which will meet the needs of all who attend. In fact there is some evidence that some sections of the country are about at the point of providing at least junior-college work for all.

Are the Right Persons Going to College?—Since there is an increasing number of persons going to college, the questions are often asked "Are the right persons going to college?" "Is a college education worth the cost?" and "What do college students learn?"

To answer these questions, a study was sponsored by the Carnegie Foundation for the Advancement of Teaching of the relations between secondary and higher education in Pennsylvania.[1] Data were secured for thousands of students to whom was administered a test designed to measure mental quickness, accurate information about a wide variety of general facts, and general culture. From the test results a few general conclusions are outstanding:

1. The range of scores for every group tested was extremely large. The differences between groups, such as high-school seniors, college freshmen, prospective teachers, and farmers was not so great as differences within groups.
2. When 6,000 high-school graduates who went to college were compared with 12,000 who went to work, one-fourth of the noncollege group were better than the median of the college group. In other words, in order to get the highest levels of ability into college, it would be necessary to replace the lowest 50 per cent of those attending with the upper 25 per cent of those who did not attend. If students of the highest academic ability are the ones who should go to college, then the colleges are only getting about one-half the high-school graduates they should. Those who did not attend college but desired to do so gave financial handicaps as the chief factor which kept them from attending.
3. Not all high schools were equally apt to furnish students considered good college material. It was found that there was no significant difference between students from small and large high schools, but those from

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[1] Goodwin Watson, How Good Are Colleges? *Pamphlet* 26, Public Affairs Committee, New York, 1938, pp. 1–16.

17 select private high schools made decidedly higher scores than those from public schools.

4. When the American private schools were compared with four of the best English "public schools," holding age constant, there was no apparent difference in ability. This does not mean that there are fewer capable students in the American public schools, or that it was the private school which made the students superior, but does show that the private schools have a more select group.

5. Colleges differed when the students of one were compared with students of another. Although the ranges were wide and the overlapping great, the differences were marked. All Pennsylvania high-school seniors, as a group, were about equal in ability to the sophomores of a "low" testing college. In some of the colleges the dullest student surpassed the brightest in another!

6. The study gave very little information which would be of value in helping a high-school senior select a college. The size of the school was no index, for some of the smaller were as competent as the larger. Students who scored the same in high school, but who chose high and low colleges, tested far apart four years later. Those in higher or better schools scored an equivalent of two years higher due to the greater stimulation in the more competent schools. Although these differences were noted, no rating device was given to aid in selecting superior colleges.

As shown by the study just reported, colleges and universities could enroll twice as many students as they now enroll and still maintain the same general level of academic ability. However, this does not answer the question as to who should go to college. From the point of view of the state, a sufficient number of students should attend to assure society of an adequate supply of trained leaders in all fields of public service; from the standpoint of the individual, it is a waste of time and money if the school cannot offer courses in which he can profit, or develop the individual capacities and supply the needs of each person enrolled.

COLLEGE ENTRANCE REQUIREMENTS

During the Colonial period entrance to college was based almost wholly on oral examinations and conferences with school officials. As the number of universities increased, the oral examination was changed to a written one, which system lasted throughout the nineteenth century. Besides the examinations, candidates were required to present entrance credits from a secondary school. Up to 1850 only eight subjects were accepted, and only six more were added up to 1875. From 1640 to 1847 the subjects accepted first by Harvard, Yale, Princeton, and Michigan for entrance to the A.B. course were: geography, English grammar, algebra, geometry, and ancient history. After the middle of the nineteenth century, newer subjects began to be accepted such as: modern United States history, physical geography, English composition, physical science, English literature, and modern languages.[1]

Since 1875 many new subjects have been added to the accepted list of entrance requirements. The usual requirement, in terms of subjects, which was in common practice in 1912 and is still in vogue in many colleges consists of three units of English, two and one-half units of mathematics, a unit of science, and a unit of social science. Fifteen units were required and the number of courses prescribed was 10.2.[2]

In the last two decades there has been a tendency to liberalize the entrance requirements and accept candidates on bases other than subject-matter requirements. However, studies made by Gladfelter, the National Survey of Secondary Education, the Research Division of the National Education Association, and by Brown and Proctor reveal that the colleges are still rigid in their entrance prescriptions. A liberalization of these tendencies will do much to free the high schools in selecting curricular content.

Methods of Admission to College.—Gladfelter[3] made a survey of entrance requirements for admission, as stated in their catalogues, to 146 American colleges and universities distributed over five regional territories. One hundred were privately controlled, and 46 publicly controlled; 25 were men's colleges, 28 were women's colleges, and 93 were coeducational colleges.

The criteria generally employed in selection of college students were:

1. Amount of preparation.
2. Indorsement of the secondary school.
3. Quality of preparation.
4. Scores made on tests of scholastic aptitude.
5. Personal qualifications.

Amount of Preparation.—The University of Florida does not require any specific high-school units for admission to its general college, and this seems to represent the attitude of more than a dozen leading institutions toward the unit requirement and prescribed units in the several subject fields.

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[1] Elwood P. Cubberley, "Public Education in the United States," p. 234, Houghton Mifflin Company, Boston, 1919.

[2] A. A. Douglass, "Modern Secondary Education," p. 179, Houghton Mifflin Company, Boston, 1938.

[3] Millard E. Gladfelter, The Status and Trends of College-entrance Requirements, *The School Review*, **45** (December, 1937), pp. 737–749.

The number of units prescribed for students has been decreasing, and an increasing number of institutions are having no prescribed units. The latter includes reputable liberal arts colleges scattered from coast to coast. Many institutions of high standing have a tendency to set aside the pattern of required subjects for students of high ability and outstanding promise.

The total number of units required for admission has changed little; most require 15 or 16 units, and the subject fields in which the prescribed units fall remain unchanged.

The requirements in foreign languages and mathematics are decreasing. The emphasis placed recently on the value of social sciences has not yet been expressed in college-entrance requirements.

Quality of Preparation.—Of the 146 institutions studied, 138 admit students on certificate. Only eight institutions require the examinations of the College Entrance Examination Board.

Recommendation by Principal.—This is a new factor in determining fitness of applicant for college. During the past decade colleges have begun to rely on information furnished by principals concerning ability and general habits of students. Ninety-one, among the 146 colleges, require personal recommendations. The purpose of this is generally held to be an opportunity for the college to give consideration to students who have high ability and talent along certain lines but who have not excelled in the conventional program, and to reject applicants who have good school records but who would not fit into the program of a particular college.

Scholastic Aptitude Tests.—Fifty-two of the colleges administer aptitude tests before admission, and 23 administer similar tests after admission. The two tests most commonly used are the Scholastic Aptitude Test of the College Entrance Examination Board, and the Psychological Examination of the American Council on Education.

Personal Qualifications.—Forty-six per cent of the 146 colleges require a health examination before admission. The statement of a minimum age was also noted in 18 of the catalogues. Sixteen require a personal interview with an officer of the college. Ninety-six require character recommendations from the principal and in some cases from several additional persons.

Summing up all these facts, it is noticeable that during the past decade colleges and universities have become more concerned with the intellectual ability of pupils than with subjects completed in the secondary school. The unit and the subject mark as instruments for prediction have given way to such factors as rank in class; sequence in subject fields; and ratings on intelligence, psychological, and achievement tests. The author concludes:

> Colleges are becoming more concerned than formerly about the personal strengths and qualities of students applying for admission. The wide acceptance of recommendation by principals and alumni and the emphasis placed on personal interviews suggest a growing interest in individuality in higher education.[1]

Many colleges desire a national distribution of their students rather than a local one. If too high a local standard is employed, the increase will be at the expense of a national distribution. With a local standard, students tend to remain in the same locality after graduation. The College Entrance Board examination method of admission has the effect of creating a more local and less national distribution of students in universities which employ it extensively.[2]

Study by the National Survey of Secondary Education.—The National Survey of Secondary Education revealed that of 517 colleges and universities (Table 21) the method used most often was the high-school transcript, used by 63 per cent of all schools. The next most frequently employed were by the College Entrance Board examination and an examination by the institution, 26 per cent each. The high-school diploma was used as a sole basis for admission by 23 per cent of all schools. One concluding paragraph of this study gives a good summary of practice and trends in college admission:

> In general, the higher institutions included in this study are increasing the number of methods by which students may gain admission. Furthermore, to an increasing extent, institutions are judging applicants on the basis of a combination of criteria. Institutions do not in general abandon old criteria of admission when new ones are adopted; rather, batteries of criteria are set up as opposed to criteria used singly. Few really innovating plans of admission are reported. The trend in general is to increase the number of ways by which students may gain admission, at the same time, in many cases, raising the requirements in single methods.[3]

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[1] *Ibid.*, p. 749.

[2] Walter J. Greenleaf, College Entrance Requirements, *School Life*, **22** (June, 1937), pp. 303, 316.

[3] National Survey of Secondary Education, Monograph 10, *U.S. Office of Education Bulletin* 17, 1932, p. 91.

Study by the Research Division of the N.E.A.—A later investigation concerning the types of evidence collected and used by 423 colleges and universities as a basis for admitting and rejecting students, was made by the Research Division of the National Education Association. Some of the types most frequently used in order of their frequency were:[1]

TABLE 21

METHODS OF ADMISSION EMPLOYED BY 517 COLLEGES AND UNIVERSITIES*

Method of admission	Type of school		
	Public, per cent	Private, per cent	Total, per cent
High-school diploma	25	22	23
High-school transcript	71	59	63
College Board examination	24	27	26
Examination by institution	28	26	26
Other examinations	10	8	9
High-school subject certificate	18	26	23
Rank in high-school class	4	16	12
Intelligence test	1	2	2
Principal's recommendation	4	5	5
Other recommendation	1	2	2
Personal interviews	1	2	2
No specific requirement	1		
Age requirement	1		

* National Survey of Secondary Education, Monograph 10, *U.S. Office of Education Bulletin* 17, 1932, p 13.

1. Transcript of high-school credits and subject marks.
2. Rank in high-school graduating class.
3. High-school principal's judgment.
4. Record of personal interview by member of college staff.
5. Description of character and personality from high school.
6. Results of College Entrance Board examination.
7. Results of intelligence tests.
8. High-school diploma.

Trends in Unit Requirements.—Despite the tendency to reduce the number of prescribed units for admission to college and to free the pupils from rigid requirements, the most frequent practices in 1936–37 compared with those of 1931–32 reveal a tendency to retain the same subjects. The most typical pattern found by the N.E.A survey was:[1]

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[1] From High School to College, *National Education Association Research Bulletin*, **16** (March, 1938), p. 79.

	Units
English	3
Mathematics	2
Social studies	1
Natural science	1
Foreign language	2
Total prescribed	9

With 9 of the 15 units prescribed, the student has a choice of 6 units.

The tendency to require 15 units for entrance is quite general, but the number of prescribed units varies. Almost half the 423 colleges surveyed prescribed 5 to 9 units; and 35 per cent prescribe 10 to 14 units. Although few prescribe all units, or no units, there was a slight tendency for an increase in the number of schools prescribing only 1 to 4 units from 1930 to 1937.[2] For some years Latin was definitely prescribed as the required foreign language. In an investigation of 331 colleges and universities made by Brown and Proctor,[3] it was found that Latin as a specific requirement was uncommon, and that modern foreign languages are becoming increasingly popular in all schools making a definite language requirement. Of 22 state universities requiring a foreign language, 17 allow modern languages, Latin, or Greek.

PREDETERMINING COLLEGE APTITUDE

If one is asked the question "What knowledge, habits, and skills are essential for college success?" the usual answer is given in terms of academic subjects pursued in high school. Thus, if one has had the usual pattern of college-entrance units—English, mathematics, social studies, science, and a foreign language—he is generally considered as having the necessary equipment for college success. Such a method of determining college aptitude presupposes that knowledge is measured by the number and kind of courses pursued, that a knowledge of courses pursued in high school is essential in order to profit by courses in college, and that certain high-school subjects fit one better for college than others.

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[1] *Ibid.*, p. 78.

[2] *Ibid.*, p. 77.

[3] E. J. Brown and W. M. Proctor, "Methods of Admission and Matriculation Requirements in 331 Colleges and Universities," Seventh Yearbook of the Department of Superintendence, National Education Association, pp. 331–358. Washington, D.C., 1929.

If the attributes of college aptitude are stated in terms other than the usual admission subjects, the necessary qualifications would be similar to the following: knowledge of the English language including reading, writing, and speaking, a degree of intelligence sufficient to profit by college courses or to compete with one's neighbors; a certain degree of maturity, health, ambition, and drive enough to continue to graduation. One might add good study habits, knowledge of how to take notes, and how to study for and write an examination.

It is generally supposed that those who have earned 15 units from an approved high school have acquired these necessary qualifications. Many have, but many have not. It is a fallacy to assume that study skills exist merely because one has completed high school, and that if they do, they will carry over into college. It is not the knowledge of the foreign language, science, or mathematics that college instructors want so much as the degree of intelligence displayed by those who can profit by such courses. There is a wide difference in the average I.Q. of the various curricular groups in high school, the college-preparatory group ranking highest. If one reasons properly from cause to effect, it will become evident that it was not the particular courses or pattern of courses which caused them to succeed, but more intelligent pupils took those courses and more intelligent pupils are more likely to succeed in college than those of less ability.

Many students enter college who have not learned many necessary habits and skills in high-school courses which are more important to college success than knowledge. For them, it is necessary to learn them while in college or fail. Important among these are skill in reading and study habits. Due to the differences in the quality of high-school and college courses, many pupils have been able to graduate from high school without devoting much time to study, and have developed or failed to develop proper habits and skills in reading. Many colleges have attempted to solve these problems by isolating the poor readers by means of examinations given at entrance and giving them a special reading course. Others have orientation courses and a freshmen week designed to induct them into college life.

On the other hand, the high school is not the only place one can acquire the abilities necessary to college success. Most of the tools of learning are acquired in the elementary school, and by the age of 20 to 21 many persons who never attended high school have all the abilities necessary to success, acquired through informal educational agencies. Some colleges, as the University of Arkansas, are using a "common-sense viewpoint" as an occasional method of admission. On this basis they are admitting students 21 years of age or over, who display sufficient intelligence on psychological examinations, who have a desire to complete college, have had vocational experience, and have good moral qualities. These students have demonstrated by their success that high-school graduation, although highly desirable, is by no means essential to success in college.[1]

Educational Guidance with Respect to College Entrance.—Counseling and guiding high-school pupils with reference to continuing their schooling beyond the secondary level is just as important as vocational guidance. The general techniques suggested for a guidance program outlined in Chap. XVII are as valuable in educational as in vocational guidance.

That there is a need for such guidance is evidenced by the large number of maladjusted students who enroll in colleges each year, which produces failure, changes in schedules, and elimination. The National Education Association survey of guidance practices in 1,600 high schools indicated that more than two-thirds of the schools indicated that they followed some kind of regular procedure in advising students as to whether or not they should enter college.[2] At the same time almost half of all students who entered colleges from these public high schools were given no official advice, while only a fourth entered without advice from private and parochial schools.[3]

Some of the questions and problems confronting pupils who are contemplating attending college are:

1. Should I go to college?
2. Do I have the ability to succeed?
3. Is a college degree essential or desirable in the vocation I intend to follow?
4. What college should I attend?
5. What high-school courses are required for college entrance?

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[1] The authors made a study of 27 students admitted on this basis whose records indicated they can succeed in college without having attended high school.

[2] *From High School to College*, *op. cit.* p. 71.

[3] *Ibid.*, p. 70.

Some vital information which should be secured for each pupil before these questions may be answered are:[1]

1. Subject-matter marks on high-school courses.
2. A description of personality and character.
3. The number of credits earned in certain subjects.
4. Interests and ambitions as revealed from interviews.
5. Ratings on intelligence tests.
6. The economic status of the family.
7. Special abilities of students in various fields.
8. General health record.
9. Scores on college aptitude tests.
10. Vocational interests and abilities.
11. Attitude toward college.
12. Habits of work, industry, drive, and capability of assuming responsibility and doing independent work.

Studies in the Validity of College Entrance Requirements.—Many studies have been made in attempting to find valid criteria or a basis for predetermining college aptitude. If such a basis could be found, it would have two definite values. It would aid colleges in determining admission requirements, and aid the high school in guiding and counseling pupils with respect to college entrance.

Douglass[2] studied the academic records of 1,196 students who entered the University of Oregon in the school year 1926–27. Data concerning the high schools and the high-school work of each student were secured. He found that the most valuable single factor in predicting the average college mark is the average high-school mark. Some of the coefficients of correlation found between average marks earned in college and high school marks were: all subjects .56; science .54; English .49; foreign language .46; social studies .44; mathematics .44; and vocational subjects .35. Further conclusions drawn by the author were:

1. The number of units taken in any one subject-matter field does not furnish any useful basis for predicting college success.
2. Psychological test scores correlated positively with success, but were not better than those from separate subjects except the vocational subjects.
3. Principals' ratings on industry, leadership, and citizenship are all positively and materially correlated with college marks, but not in sufficient degree to furnish alone a useful basis for prediction of college marks.

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[1] *Ibid.*, pp. 71–72.

[2] Harl R. Douglass, The Relations of High School Preparation and Certain Other Factors to Academic Success at the University of Oregon, *University of Oregon Publication*, 3 (September, 1931), pp. 12–13.

4. Neither the size of the secondary school from which a pupil comes nor the salaries paid his teachers apparently has much to do with the quality of work he will do in college as judged by the marks he receives.

5. Taken over all ranges, the amount of time spent in student noncurricular activities and 'at work apparently is not associated to any significant extent with the quality of work in college.

These are in close agreement with other investigations. Douglass reports the coefficients of 29 others who found the relationship between high-school and college marks. The median was .55, and of 44 studies reporting the relationship between intelligence test scores and college marks the median correlation was .45.[1]

In a project in research in universities conducted by the Office of Education in 60 universities and colleges concerning factors in the adjustment of college students, a few of the findings were:[2]

1. Participation in noncurricular activities pursued in high school and college, with the exception of athletics, in general accompanies adjustment and anything which disturbs this activity also disturbs the attainment in scholarship.
2. Delayed admission, or not entering college immediately after high-school graduation, is not associated with poor scholarship. This conclusion is based on data from the University of Washington only, and should not be taken as representing the country as a whole.
3. Students who enter college at an age greater than 18 or 19 have poorer chances of success. This conclusion does not contradict conclusion number two, for the latter group include those who graduated from high school at an advanced age, and were handicapped in ability.
4. Results from the University of Washington reveal that to be self supporting in college is no great handicap, for those who were 100 per cent self supporting actually made better marks than the nonself-supporting students.[3]

This same conclusion was made by Book at Indiana University. Working students make almost as much credit as nonworking students; they loaf less, study less, and are just as intelligent if not more so than nonworking students.[4]

The relationship between high-school marks and college marks for four years, presented in Table 22, are in line with the result of previous investigations. They range from .13 to .49, the highest ones being between all subjects in high school and all subjects in college and the lowest between vocational subjects and all college marks. Those subjects supposed to be more potent in assuring college success, foreign languages and mathematics, showed no higher coefficients than others (Table 23). In fact, mathematics in high school was only slightly more related to mathematics in col-

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[1] *Ibid.*, pp. 14–21.

[2] David Segal and Maris M. Proffitt, Some Factors in the Adjustment of College Students, *U.S. Office of Education Bulletin* 12, 1937, pp. 1–49.

[3] *Ibid.*, p. 13.

[4] William F. Book, "How to Succeed in College," pp. 35–54, Warwick and York, Baltimore, 1927.

TABLE 22

COEFFICIENTS OF CORRELATION BETWEEN MARKS EARNED IN VARIOUS SUBJECTS IN HIGH SCHOOL AND MARKS FOR THE FRESHMAN YEAR AND ALL FOUR YEARS IN COLLEGE*

Marks in high school in	Correlation of all college marks with high-school marks in various subjects	
	Freshman year	All four years
All subjects	.52	.49
English	.43	.42
Social studies	37	.37
Foreign languages	.33	.31
Science	.43	33
Mathematics	.42	.38
Art and music	.18	27
Vocational subjects	.18	.13
Commercial subjects	.36	27

* David Segal and Maris M. Proffitt, Some Factors in the Adjustment of College Students, *U.S. Office of Education Bulletin* 12, 1937, pp. 15–32.

TABLE 23

COEFFICIENTS OF CORRELATION BETWEEN HIGH-SCHOOL MARKS EARNED IN VARIOUS SUBJECTS AND COLLEGE MARKS EARNED IN THE SAME SUBJECTS*

Subject	Marks Earned in Same Subject in College
English	.46
Social studies	.38
Foreign language	.43
Science	.40
Mathematics	.43

* From data presented by David Segal and Maris M. Proffitt, Some Factors in the Adjustment of College Students, *U.S. Office of Education Bulletin* 12, 1937, pp. 15–32.

lege than English in high school was to college mathematics. The coefficients were .43 and .40 respectively.

An unpublished paper summarizing the college success of 27 students admitted to the University of Arkansas between 1924 and 1933 without sufficient recognized secondary-school training, each student being past 20 years of age and making a satisfactory score on a psychological test, revealed that of these 27, 8 remained one semester only, 7 one year or less, and 5 remained to earn degrees. One of these was elected to Phi Beta Kappa. The combined grade point average in quality credits was 2.53, while that for the entire student body for the same period was 2.25. Perhaps the reason for the large mortality of this group was that they had been out of school for some time, had not finished high school, and found adjustments hard to make. At least it reveals that high-school graduation is not a necessary prerequisite to college, and that the abilities needed for success can be acquired out of high school.

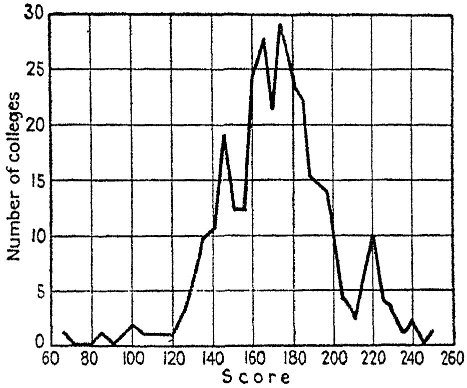

FIG. 8.—Gross median scores of college students on psychological examinations. [*From L. L. Thurstone and T. G. Thurstone, Educational Record,* **28** (1937), pp. 252–273.]

Cooperative Tests of the American Council on Education.—A Cooperative Test Service was established in 1930 by the American Council on Education in order to provide objective and reliable measures of individual differences in educational achievement for secondary-school and college students. One of their contributions has been the preparation of psychological examinations which have been used by more than 600 colleges and universities as a part of their admission program.[1] Results from these tests constitute the major source of data for comparing students of one college with those of another in mental test scores. The wide range in median scores found from one school to another (Fig. 8) suggests that either there is a wide range of abilities or the tests are not equally adapted to all schools. If this latter conclusion is valid, schools should be cautious in using the results of group intelligence tests in admitting students to college.

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[1] "Cooperative Achievement Tests," pp. 1–7, Cooperative Test Service, New York, 1938.

The Eight-year Study.—The Commission on the Relation of School and College of the Progressive Education Association was organized in 1930. In 1933 participating schools began their work. The principals of 30 high schools located in various parts of the United States were to recommend certain pupils who were to be admitted to college regardless of their patterns of work. More than 250 colleges and universities agreed to receive these pupils on this basis. The colleges were, in effect, telling the high schools that they were trusting their judgment and ability in selecting the most desirable patterns of courses for each pupil, and that they would not be discriminated against because of departures from the subjects prescribed for admission.

The aim of the study was to secure data for a further study of conventional entrance requirements, and to work toward closer cooperation with colleges.

Each principal forwarded to the schools selected by each graduate a history of his high-school activities, including inventories of interests, test results, and other information deemed valuable to college officials in guidance. The work of these students was to be compared with that of others who met the usual entrance requirements.

The Commission will complete its work in 1941 when the survivors of those starting to high school eight years ago will have finished college. An interpretation of the findings will be made in 1942.

On the basis of observations already noted of those in college and for a few who were admitted to college after only a few years of high school training, a few conclusions have already been announced. Evidence already available indicates that no special pattern of subjects need be followed in high school in order to achieve success in college. Success seems to depend not on specific knowledge, but upon competence to work effectively, ability to use the English language, and qualities of industry, application, and persistence.[1]

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[1] Wilford M. Aikin, A Brief Report on the "Thirty Schools" Study, *Progressive Education,* 17 (October, 1940), pp. 425–427.

ACCREDITING AGENCIES

As colleges increased their enrollments, the system of admitting students only on the basis of personal interviews and written examinations, which was the usual practice in the latter half of the nineteenth century, became cumbersome and exercised a real hardship on the part of entrants and university officials alike. The University of Michigan as early as 1871 began the practice of admitting students without examinations from all high schools approved by the authorities of the university. This sytem became popular and spread to other schools, and as a result associations of colleges and secondary schools have been established in all parts of the United States.

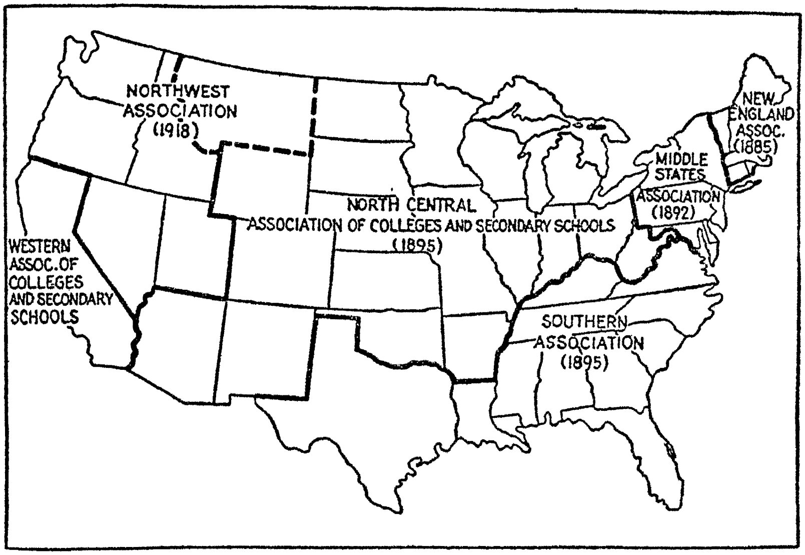
NORTHWEST ASSOCIATION (1918)
NEW ENGLAND ASSOC. (1885)
MIDDLE STATES ASSOCIATION (1892)
NORTH CENTRAL ASSOCIATION OF COLLEGES AND SECONDARY SCHOOLS (1895)
WESTERN ASSOC. OF COLLEGES AND SECONDARY SCHOOLS
SOUTHERN ASSOCIATION (1895)

FIG. 9.—Associations of colleges and secondary schools in the United States. The dates represent the year of establishment. Montana is affiliated with two associations. [*Carl A. Jessen, Cooperative Study of Secondary School Standards, School Life,* **24** (*July,* 1939), *p.* 305.]

There are now six associations. All of them do not accredit high schools, but all do work to produce greater articulation between secondary schools and institutions of higher learning. The six associations are:

The New England Association of Colleges and Secondary Schools.[1]—This is the oldest of the regional associations, being established in 1885. The association does not accredit schools, but meets annually to hear instructive addresses, and hold conferences on common problems. The territory covered by this and other associations is shown in Fig. 9.

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[1] What Is a Good High School? *School Life,* **50** (October, 1933), pp. 34–35.

Middle States Association.—The Middle States Association of Colleges and Secondary Schools was organized in 1892, and is the second oldest. Since 1928, a list of schools meeting state standards has been issued.

North Central Association.—The North Central Association of Colleges and Secondary Schools was founded in 1895. It now embraces 20 states from West Virginia to Arizona. For some years they have made intensive studies of standards and issue an accredited list of schools meeting these standards.

Southern Association.—The Southern Association of Secondary Schools and Colleges was organized in 1895. Accrediting schools is one of its most important functions.

Northwest Association.—The Northwest Association of Secondary and Higher Schools is the youngest to issue a list of accredited schools. It was organized in 1918. Schools of Alaska and Hawaii are on its list, although they are not represented on its executive committee.

Western Association.—The Western Association of Secondary Schools and Colleges is not an accrediting institution. It includes the State of California only.

Schools in regional accrediting associations agree to accept pupils for entrance who are graduates of high schools which have met certain standards as judged by inspectors. Inspections may be conducted by members of the staff of universities, or others designated by them. A school may be up to standard one year and dropped from the list later because of a lowered rating. This may be overcome by bringing up the deficiency.

The College Entrance Examination Board.—At the time when most colleges were giving subject-matter examinations to all candidates for entrance, a need was felt for uniformity since practices varied so markedly. The College Entrance Examination Board began operating in 1901 for this purpose. Since that time thousands of students have been examined in all parts of the country. The board does not have the power to admit one on the basis of results obtained, but merely conducts the examinations and sends the results to any college where the student desires entrance. Practically any college in the United States will accept the results of the board's examinations. About 5 per cent of all entrants are admitted on this basis, the largest number coming from private schools. It is most influential in the Middle Atlantic States and in New England.[1]

Cooperative Study of Secondary-school Standards.—In 1933 the six accrediting associations of the United States, which include all 48 states, started a cooperative study with the ultimate aim of revising their standards for accrediting secondary schools. The existing standards were to be revised not only in the interests of those going to college, but also of those not intending to go. As the study progressed, the term "stimulation" was frequently substituted for accrediting, for the development of standards has a stimulating effect on high schools whether they are desiring to be accredited or not.

The old standards had become too formalized and stereotyped. Evaluation in terms of physical facilities is by itself not sufficient evidence to determine the competence of a high school. For example, instead of ascertaining whether certain types of records are kept, the new standards determine what use is made of them; besides counting the books in the school library, the amount of use given them is determined.[2]

Aims of the Study.—The purposes or aims of the study were expressed or implied in the following questions:[3]

1. What are the characteristics of a good secondary school?
2. What practicable means and methods may be employed to evaluate the effectiveness of a school in terms of its objectives?
3. By what means and processes does a good school develop into a better one?
4. How can regional associations stimulate secondary schools to continuous growth?

Evaluative Criteria.—In order to select and validate criteria for evaluating secondary schools, tentative criteria were secured from publications of research studies, committee reports, and other educational material. After a critical evaluation and classification of these 200 schools selected in the United States, the schools cooperated in a tryout period. Each of these schools evaluated itself by its own staff members and each one was evaluated by a visiting committee of educators. Achievement tests were given to 17,000 pupils; the college success of 13,000 graduates was determined, and a follow-up study was made of 6,000 pupils who did not go to college; and finally the judgments of thousands of parents and pupils were secured concerning the schools.[1]

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[1] Douglass, *op. cit.*, p. 175.

[2] Carl A. Jessen, Cooperative Study of Secondary School Standards, *School Life*, **24** (July, 1939) pp. 305–306.

[3] "How to Evaluate a Secondary School" (a manual), p. 1, Cooperative Study of Secondary School Standards, Washington, D.C., 1940.

After a complete study, evaluation, and summary of the collected data were made, final standards were formulated. These appeared in a volume entitled "Evaluative Criteria"[2] and were accompanied by a series of bar graphs representing thermometers in a publication entitled "Educational Temperatures."[2] Each thermometer represents a different phase of the educational work of the school divided into nine divisions: the curriculum, pupil activities, library, guidance, instruction, outcomes, staff, plant, and administration.

Use of the standards is purely optional. Many individual schools have elected to use them as a basis for self-evaluation leading to improvement, and four associations, the Middle Atlantic, the Southern, the North Central, and the Northwestern have announced their intentions of using them instead of their present standards.[3]

THE JUNIOR COLLEGE

The junior college has as one of its functions that of providing a more gradual transition from secondary to higher education. In this respect it is comparable to the junior high school. The junior college is neither wholly secondary nor higher education, but has elements of both.

Types of Junior Colleges.—Junior colleges may be classified according to the basis for their administration, support, and aims:

1. Those established on a regular college campus comprising the first two years of college work.
2. Local public junior colleges established and supported by the high-school districts, union districts, or the county as a unit.
3. State junior colleges.
4. Private junior colleges. The majority of these are denominational institutions or private girls' schools.

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[1] *Ibid.*, pp. 4–6.

[2] Published by the Cooperative Study of Secondary School Standards, Washington, D.C.

[3] Jessen, *loc. cit.*

Reasons for Establishing Junior Colleges.—Some of the main reasons for establishing junior colleges are:

1. *The European analogy.* The *Gymnasium* of Germany and the *lycée* of France have for years been giving students the equivalent of two years of college training, thus leaving the universities free to devote their full time to research and technical training.

2. *To push all secondary and many elementary courses out of the colleges.* Studies have shown much overlapping and similarities between the elementary courses in college and the same courses in high school. In many cases the content and even the textbooks used were the same and very little difference was observed in the method of instruction of the standards and quality of work.

3. *To relieve the overcrowded colleges.* Since 1890 the enrollment in colleges has increased from 74,000 to over a million students in 1940, or an increase of over 13 times. In many colleges appropriations, building space, and number of members of the faculty have not kept pace with the increased enrollment, which has resulted in overcrowded building and heavy teaching loads. This crowding could be cared for by the junior colleges.

4. *The desire for additional education closer at home.* Many parents are reticent to send their children away from home to attend school until they have reached a degree of maturity which would enable them to be self-reliant.

5. *Financial difficulties.* Some of the weaker four-year liberal arts colleges reverted to junior colleges when they found they were not financially able, or did not have a sufficient enrollment. to warrant a four-year program.

Aims and Functions of Junior Colleges.—The general purposes and objectives of the junior colleges are:

1. *To democratize and popularize college education.* By making the first two years of college more accessible, many who will not attend or cannot afford to attend at more remote distances will matriculate. Even though they do not later attend a senior college or university, they have the advantage of two years of training beyond the secondary school.

2. *To provide terminal education to those not destined to pursue more advanced work in higher institutions but who desire additional schooling beyond the secondary school.* The curriculum is more liberal than specialized, more general than technical, and it is not the aim of the junior college to give advanced technological training, nor to fit one for any of the major professions. The aims are nearly like those of secondary education, and the two years may be thought of as a two-year extension of the secondary school. This is a chief function.

3. *To further the guidance function.* By the end of the twelfth grade many have not adequately explored the various fields of learning—a

function of the high school—or have not evaluated their aptitudes and capacities to the extent that an intelligent vocational choice may be made. The junior college provides two additional years for further explorations and guidance. When this is accompanied with an increased maturity, much safer and more practical vocational choices can be made.

4. *To provide better articulation and coordination between the senior high school and the university.* The transition between high school and higher education is abrupt. Marked changes in methods of discipline are made, placing the pupil on his own initiative and responsible for his own conduct. He is also responsible for budgeting his own time and lacks the close supervision he had in high school. Home influence is lacking in most cases since most must live away from home. The student is likely to find competition keener, the marking, examinations, and instructional methods different, and perhaps an entirely new pattern of course work. The junior college provides an environment in which the student may be gradually inducted into college.

Evaluation of Aims of Junior Colleges.—These aims of the junior college, especially that of providing a transition period from secondary to higher education, have not succeeded as advocated. Students often find it just as difficult or even more difficult to transfer from the junior to the senior college as to enter as freshman in a four-year institution. Those who enter college at the beginning of the junior year find themselves competing with those who have already had two years in which to make adjustments and to orient themselves, and they find adjustments just as difficult to make as if they matriculated during the freshman year. President Hutchins of the University of Chicago in commenting on this says,

> If in such institutions as my own the scheme I advocate is to succeed, we shall have to convince local parents, at least, that it is wise for them to send their children to us two years earlier than they have been accustomed to sending them. I think that if parents cannot be persuaded to do this, the University of Chicago should abandon collegiate work altogether and give up its Freshman and Sophomore year.[1]

There is evidence that the first two years of college work, when given in a junior college and given by the university where the student will take the last two years of work, are not giving the students the same background or equal training. In a study made by Gerberich and Kerr of the success of junior-college transfer students at the University of Arkansas, it was found that the junior-college transfer students made much higher grade-point averages in the junior colleges than did the comparable group of university entrants at the university. The comparable grade-point averages for semesters one to four were 3.25 for the junior college and 2.36 for the university students (see Fig. 10). The authors state that it is probable that the difference is a result of junior-college and university marking systems.[1] As intelligence was not held constant, this conclusion could not be verified. However, this is not wholly speculation, for the junior-college transfer students had grade-point averages of 3.43 for their last semester in junior colleges, but dropped to 2.16 for their first semester at the University of Arkansas. This at least bears out the contention that they faced a period of adjustment comparable to that confronting freshmen entrants to college. It will be noted that the difference got less as the senior year approached, showing a gradual tendency to make adjustments and compete with those who entered the university as freshmen.

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[1] Robert M. Hutchins, The Organization and Subject Matter of General Education, *Bulletin of the Department of Secondary-school Principals of the National Education Association*, **22** (March, 1938), pp. 6-14.

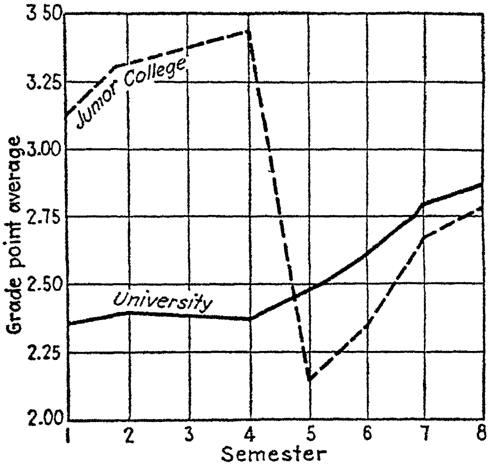

FIG. 10.—Mean grade-point averages of junior-college transfers and university entrants by semesters. Read table as follows, the grade points of those students who attended junior colleges before entering the university were much higher in the junior colleges than they were after they entered the university. [*From Fred L. Kerr and J. R. Gerberich, College Scholarship and Persistence of Transfer Students from Junior Colleges, Bulletin of the American Association of Collegiate Registrars,* **11** (*October*, 1935), *p.* 5.]

In Fig. 11 are shown the mean grade-point averages of transfers from three types of junior colleges as compared with university entrants. In each type the grade-point averages were higher in the junior colleges and lower in the university. The highest was that of private schools, who received the lowest after transferring.

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[1] J. R. Gerberich and F. L. Kerr, Success of Transfers at University of Arkansas, *The Junior College Journal,* **6** (January, 1936), pp. 180–185.

In the same study the persistence of the two groups was compared by noting the number who remained to graduation. Counting the junior year as 100 per cent, the number of university entrants remaining to receive a degree was 64.7, as compared with 56.3 for the junior-college transfer students.

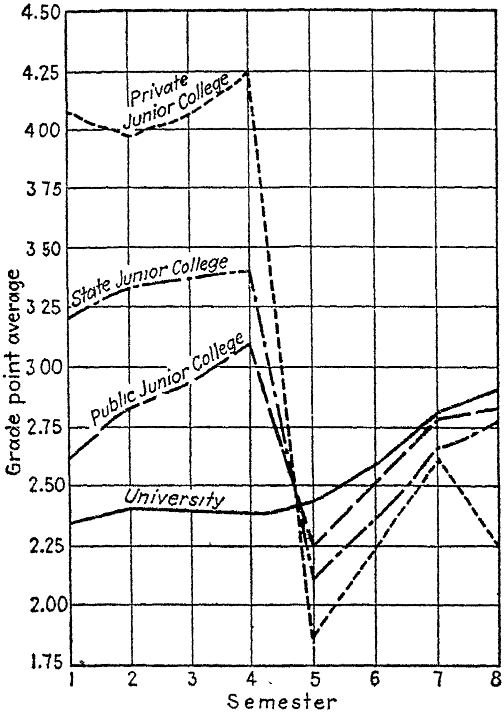

FIG. 11.—Mean grade-point averages of transfers from three types of junior college and of university entrants by semesters. [*Fred L. Kerr and J. R. Gerberich, College Scholarship and Persistence of Transfer Students from Junior Colleges, Bulletin of the American Association of Collegiate Registrars*, **11** (*October*, 1935), *p.* 6.]

In a study made by one of the authors at the University of Minnesota comparing the quality of work done by natives and transfer students at the university, it was found that those transferring from junior colleges were inferior to those from teachers colleges and liberal arts colleges on scores earned on qualifying examinations in education and English, and equal to or inferior in psychological examination scores. However, when comparisons were made on marks earned at the institutions from which they transferred the junior-college group excelled the other groups of transfer and native students.[1]

Status of the Junior College.—The junior college has had a rapid growth since the first private one was established in Decatur, Tex., in 1898, and the first public one established in Joliet, Ill., in 1902. Since then the number has increased to 610 private and public schools (Table 24). The number of schools increased 42.1 per cent from 1930 to 1941, and the enrollment increased 247 per cent.

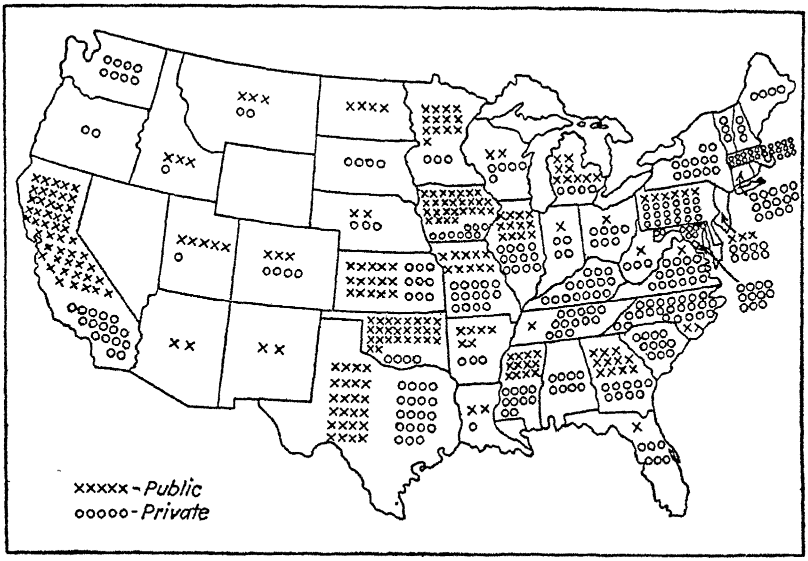

FIG. 12.—Distribution of junior colleges in the United States. [*From Walter Crosby Eells and Pricilla Winslow, Junior-College Directory,* 1941, *Junior College Journal,* **11** (*January,* 1941), *pp.* 279–300.]

The majority of schools are privately controlled (Table 25) but the majority of the students, 71 per cent, attend the public institutions showing that the size of the latter is greater. The private schools are mostly under the auspices of religious denominations, the Methodists leading, followed by the Baptists, Catholics, Lutherans, and Presbyterians.[2]

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[1] Rudyard K. Bent, A Comparison of the Performance of Native and Transfer Student Teachers on Qualifying Examinations at the University of Minnesota, *Bulletin of the American Association of Collegiate Registrars,* **12** (April, 1937), pp. 211–216.

[2] W. C. Eells, Status of the Junior College in the United States, 1937–38, *School and Society,* **47** (January 29, 1938), pp. 158–161.

The majority of the 610 junior colleges are located in Western or Middle Western states (Fig. 12). California leads with 64 schools, followed by Texas with 43, and Iowa with 36. In size, although 46 schools exceed 1,000 in enrollment, and 18 exceed 2,000 the average enrollment of all schools is 397, and the modal size is between 100 to 199.

TABLE 24

GROWTH OF THE JUNIOR COLLEGE FROM 1900 TO 1941*

Year	Number	Enrollment	Increase in enrollment,† per cent
1900	7		
1910	53		
1920	195		
1930	429	67,627	24.2
1935	521	107,807	4.1
1938	553	136,623	5.8
1940	575	196,710	26.4
1941	610	236,162	20.5

* From 1900 to 1930, data were secured from Doak S. Campbell, "Critical Study of the Stated Purposes of the Junior College," George Peabody College for Teachers, Nashville, Tenn., 1929.

From 1930 to 1941, Walter Crosby Eells, Junior College Growth, *The Junior College Journal*, 11 (February, 1941), pp. 336–340.

† The percentage increase is computed on the basis of the previous year's enrollment.

TABLE 25

PUBLIC AND PRIVATE JUNIOR COLLEGES IN THE UNITED STATES, 1941*

Type	Number	Number, per cent	Enrollment	Enrollment, per cent
Public	261	43	168,228	71
Private	349	57	67,934	29
Total	610	100	236,162	100

* Walter Crosby Eells, Junior College Growth, *The Junior College Journal*, 11 (February, 1941) pp. 336–340.

Of the entire group of 610 institutions, 533 or 87 per cent are accredited by some accrediting agency, national, regional, or state. Only 144, however, are members of the five regional associations of colleges and secondary schools.

The enrollment of the junior colleges for 1941 showed an increase of 20.5 per cent over the previous year, and since 1935 the enrollment has more than doubled. When contrasted with the growth in enrollments of representative four-year colleges, which showed an increase of less than 1 per cent from 1939 to 1940, the rapid growth in junior colleges indicates a decided trend toward a greater popularity of this type of institution.[1]

Problems in Articulation.—Problems arising from attempts to bring about a closer relationship between the secondary school and institutions of higher learning are legion. Only a beginning has been made in solving them. When secondary-school enrollments were small and the majority of those attending were planning on attending college, few problems in articulation existed. As colleges and secondary schools expanded their curriculums and increased their enrollments, problems with respect to methods of admission, guidance, preparation on the secondary level of those intending to pursue college courses, giving credit in college for work completed satisfactorily before enrolling in college, and methods of orienting students into college life became evident. Although most of these problems are still unsolved, work is progressing toward their solution.

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[1] Walter Crosby Eells, Junior College Growth, *The Junior College Journal*, **11** (February, 1941), pp. 336–340.

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CHAPTER VII

THE RETENTION AND PROGRESS OF PUPILS IN THE SECONDARY SCHOOL

In order to achieve the goal of educating all youth through twelve grades, high schools have been made accessible to the majority of youth, but providing educational facilities alone is not adequate unless youth avail themselves of the opportunities. The present chapter is concerned with the extent to which pupils have availed themselves of the opportunities and advantages provided for them, and the factors and influences preventing them from doing so.

The extent to which our secondary schools serve the masses of people cannot be accurately portrayed by the total enrollment, for enrollment figures do not reveal the amount of schooling each pupil receives, nor do they take into consideration the elimination after each grade. A true picture can be secured only by observing the secondary school enrollment in each year, and the survival rates from the time of entering high school to graduation.

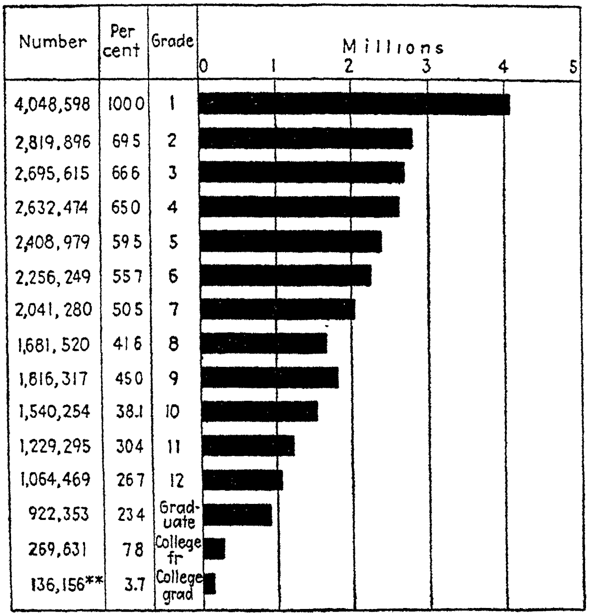
Retardation is usually associated with and is often a cause of elimination. If the school is properly articulated there should be little retardation. Elimination and retardation begin in the elementary school. Those eliminated during this period never reach the secondary school; those retarded enter at an age above normal.

THE EXTENT OF ELIMINATION

Measures of Retardation and Elimination.—One of the most commonly used methods of determining the amount and extent of retardation is by means of an age-grade table, which reveals the number of persons underage, overage, or normal for their grade. This assumes that all pupils should start to school at about the age of six, and complete a grade a year through the 12 grades. Failure of promotion, entering school at ages older than six, and nonattendance cause overageness, while entering school before the age of six and grade skipping cause underageness. Both indicate cases of maladjustment, the cause of which cannot be determined by an examination of an age-grade table.

Another method of showing the extent of retardation is by means of progress ratios. Normal progress is a grade a year, which, expressed as a ratio, is one divided by one, or 1.0. The denominator represents the number of years in school and the numerator the grade progress. A retarded pupil's ratio would be less than one, while a ratio greater than one would indicate acceleration.

Elimination can be measured by the actual number of pupils in each grade compared with the preceding one or the percentage each year's enrollment is of the preceding grade. Often the percentage is computed on the basis of the enrollment in the first grade, or the first year of high school. Elimination can also be shown by comparing the enrollment in any division with the potential population or the percentage of the total school enrollment in any grade or division.



Number	Per cent	Grade
4,048,598	100.0	1
2,819,896	69.5	2
2,695,615	66.6	3
2,632,474	65.0	4
2,408,979	59.5	5
2,256,249	55.7	6
2,041,280	50.5	7
1,681,520	41.6	8
1,816,317	45.0	9
1,540,254	38.1	10
1,229,295	30.4	11
1,064,469	26.7	12
922,353	23.4	Graduate
269,631	7.8	College fr
136,156**	3.7	College grad

FIG. 13.—Elimination of pupils from grade 1 through college, starting in 1925 in grade 1. [*Data secured from the Biennial Survey of Education,* 1934–36, *U.S. Office of Education Bulletin* 2, 1937, *Chap. II, p.* 57, *and David T. Blose, Graduates of Colleges and Secondary Schools, School Life,* **24** (*March,* 1939), *p.* 182.] **Estimated (from Biennial Survey of Education, 1936–38, *U.S. Office of Education Bulletin* 2, 1940, Chap. V, p. 73).

The Extent of Elimination from Grade 1 through College.—The extent of elimination from grade 1 through college is shown in Fig. 13. These data were secured by starting with the enrollment of the first grade in 1925, and noting the actual decrease in numbers for each successive year through the elementary school, high school, and college. This does not mean elimination alone. In grade 1 it means retardation. In 1925, there were 4,048,598 pupils who started in the first grade. Only 1,681,520 pupils, or 41.6 per cent, finished the eighth grade. It will be noticed that the number of pupils in the ninth grade is greater than the number in the eighth grade. This paradox is due to the fact that many schools in the South have seven-year elementary schools, and the eighth year of schooling for them is the first year of high school, which is the ninth year for the majority. If allowance is made for this variation by interpolation, 46 per cent finished the eighth grade, and 42 per cent the ninth grade. In 1936, of those who started, 1,064,469 entered the twelfth grade, but only 922,353 graduated. The following September 269,631, or 6.7 per cent of those starting in the first grade entered college while only 136,156 or 3.7 per cent graduated from college. In other words for each 100 starting in the first grade only 23.4 will finish high school and 3.7 will finish college.

These data are for the United States as a whole and do not reveal the situation in any local school system unless it conforms with the average. In some communities the amount of elimination is slight from the first through the twelfth grade while in others only a small percentage reach the ninth grade and a still smaller percentage finish high school.

The Holding Power of the Public Schools of Tennessee.—The holding power for the public schools of Tennessee, reported by Lund,[1] is shown in Table 26. In order to indicate the large number who fail of promotion in the first grade, the percentages for this grade are shown greater than 100; otherwise it would appear that the decrease from grades 1 to 2 because of failure was due entirely to elimination. Lund estimated that not more than 75 per cent of Tennessee children between 6 and 18 years of age are in school, and not more than 30 per cent of Tennessee youths 15 to 18 years old are in high school. Table 26 reveals that the public schools fail to carry one-fifth of the pupils through the sixth grade, one-third fail to reach the eighth, one-half fail to enter the first year of high school, and only one-fourth survive to enter the last year of high school.

Trends in the Holding Power of the High School.—Survival rates from the fifth grade through high school are shown graphically in Fig. 14. If there were no elimination, the curves would be straight lines parallel to the horizontal axis. The same figure reveals the increase in the holding power of the high school since 1909. In 1938 for each 1,000 who started in the fifth grade in 1931, 400 graduated from high school, while in 1909, it was estimated by Ayres, only 100 graduated out of each 1,000 who started in the fifth grade in 1902. The data collected by Ayres and Phillips constituted a meager sampling of the United States, while those from Foster represent the total enrollment of all schools of the nation reporting to the U.S. Office of Education. The comparison indicates increased holding power to the twelfth grade.

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[1] S. E. Torsten Lund, The Holding Power of the Tennessee Public Schools, *The University of Tennessee News Letter*, **18** (March, 1939), p. 1.

TABLE 26

APPROXIMATE HOLDING POWER OF THE TENNESSEE PUBLIC SCHOOLS, 1937–38‡

Grade	White pupils, per cent	Colored pupils, per cent	All pupils, per cent
1	173*	214*	181*
2	100	100	100
3	100†	96	99
4	97	92	96
5	90	82	89
6	82	71	80
7	74	60	71
8	66	50	63
9	53	35	50
10	41	24	38
11	32	18	30
12	25	14	24

* 73 per cent of white pupils remain in grade 1 more than one year.

† Read table thus. 100 per cent of white pupils, 96 per cent of colored pupils, and 99 per cent of all pupils, white and colored, are still in school at the third-grade level.

‡ S. E Torsten Lund, The Holding Power of the Tennessee Public Schools, *The University of Tennessee News Letter*, **18** (March, 1939), p. 1.

Kline compared Thorndike's data concerning the course of elimination in the schools of sixteen cities in 1900 to 1904 and data for the same cities during the period 1918 to 1929. It was found that elimination had been postponed an average of two and one-half to three years, the greatest increase in retention being in grades 7, 8, 9, and an increased elimination in grades 10 to 12.[1]

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[1] E. J. Kline, Significant Changes in the Curve of Elimination since 1900, *Journal of Educational Research*, **26** (September, 1932, and May, 1933), pp. 608–616.

The extent of elimination and the trend toward greater holding power of the high school is also shown by the percentage of the total public-school enrollment in high school. If there were no elimination from the first through the twelfth grade, one-third of the school population would be found in the upper four years and two-thirds in the eight years of the elementary division. As shown in Table 27 the percentage of the total public-school population enrolled in the upper four high-school grades is 22.7 for the nation. The range is from 10.6 per cent is Mississippi to 30.2 per cent in Oregon.[1] Evidence of the increased holding power of the secondary school is shown by the fact that in 1870 only 1.2 per cent of the total public-school enrollment was found in the high school as contrasted with 22.7 per cent in 1936. Marked improvement was not made until 1920, at which time 10.2 per cent were enrolled in high school.

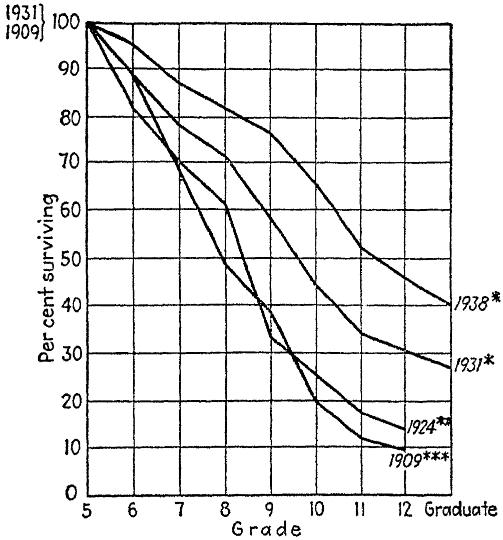

FIG. 14.—Survival rates for public schools, fifth grade through high-school graduation. * From Emery M. Foster, School Survival Rates, *School Life,* **23** (March, 1938), pp. 265–266. ** From F. M. Phillips, *Bureau of Education Bulletin* 38, 1924, Washington, D.C. *** L. P. Ayres, "Laggards in Our Schools," Russell Sage Foundation, New York, 1909, p. 71.

The increase in the number of pupils enrolled in the twelfth grade is shown by the fact that in 1938 the percentage of pupils in the first year of high school, computed on the basis of the total high-school enrollment, was 31.3 compared with only 19.0 per cent in the fourth year (Table 28). There has been a decided improvement in the holding power since 1910, for in that year the percentage in the first year was 42.9 and only 12.2 per cent in the fourth.

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[1] Biennial Survey of Education, 1934–36, *U.S. Office of Education Bulletin* 2, 1937, p. 10.

TABLE 27

PERCENTAGE OF THE TOTAL PUBLIC-SCHOOL ENROLLMENT IN HIGH SCHOOL FROM 1870 TO 1936*

Year	Per Cent
1870	1.2
1880	1.1
1890	1.6
1900	3.3
1910	5.1
1920	10.2
1930	17.1
1936†	22.7

* Emery M. Foster, Statistical Thumbtacks, *School Life*, **22** (May, 1937) pp. 277–278.

† Biennial Survey of Education, 1934–36, *U.S. Office of Education Bulletin* 2, 1937, Chap. II, p. 9.

TABLE 28

PERCENTAGE OF PUPILS IN THE VARIOUS YEARS OF HIGH SCHOOL FROM 1910 TO 1938*

Year	Year in high school			
	1	2	3	4
1910	42.9	27.1	17.8	12.2
1930	35.4	27.4	20.6	16.6
1938	31.3	27.1	22.6	19.0

* Biennial Survey of Education, 1934–36, *U.S. Office of Education Bulletin* 2, 1937, Chap. II, p. 8, and Biennial Survey of Education, 1936–38, *U.S. Office of Education Bulletin* 2, 1939, Chap. V, p. 14.

A secondary-school system may consider itself up to the average of the country as a whole if survival rates are as follows:[1]

First year	100 in 1934–35
Second year	85 in 1935–36
Third year	70 in 1936–37
Fourth year	62 in 1937–38
Graduate	55 in 1938

For every 100 who start to school in the ninth grade only 55 will graduate.

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[1] Emery M. Foster, School Survival Rates, *School Life*, **23** (March, 1938), pp. 265–266.

A study made of the public-school enrollments of the State of Ohio indicated trends in the total enrollment and in the holding power of the secondary school by means of index numbers, using 1927 enrollments as the base year. Those of the subsequent years were expressed as index numbers on this base. As shown in Table 29, the first-grade enrollment in 1929 was 91 per cent of that of 1927, and only 71 per cent in 1940. This indicates clearly the decrease in the elementary-school enrollments during the decade 1930 to 1940, which was evidenced not only in Ohio, but in the entire nation. As contrasted with this, the enrollment in the secondary division has been on the increase as indicated by the increased index numbers from grades 8 through 12. This reveals a tendency toward an increase in the proportion of the total school enrollment in the secondary division. The largest gain was shown in the senior year or the twelfth grade. In 1940 the enrollment in this grade was 191 per cent of the 1927 enrollment which means that the holding power doubled during the thirteen-year period.

TABLE 29

DISTRIBUTION OF OHIO PUBLIC-SCHOOL ENROLLMENT FOR CERTAIN YEARS, 1927 TO 1940*

Grades	Enrollment, 1927	Index of enrollment by years, using 1927 as 100		
		1929	1935	1940
1	145,647	91	83	71
2	120,534	104	94	83
3	125,038	96	91	81
4	123,783	92	93	81
5	122,939	96	95	82
6	115,972	96	97	88
7	109,275	101	105	97
8	93,562	106	117	110
9	77,294	114	136	139
10	57,948	115	152	171
11	44,152	110	166	186
12	37,379	110	164	191
Grade 1–8, total...........	956,750	98	93	85
Grade 9–12, total.........	216,773	113	151	166
Total.....................	1,173,523†	101	104	100

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* T. C. Holy, Trends in Public-school Enrollment in Ohio, *Educational Research Bulletin*, 20 (February 12, 1941), pp. 29–36, College of Education, Ohio State University.

† In the decade of 1930 to 1940 the total population of the state increased 260,915.

Period of Greatest Elimination.—One of the criticisms of the 8-4 plan of organization was that the eighth grade provided terminal education for many, thus causing a great amount of elimination between the eighth and ninth grades. Reorganization has been one of the factors in reducing the elimination between these grades. As shown in Table 30, in 1927 only 80 per cent of those who finished the eighth grade enrolled in high school. In 1935 this number had increased to 95.3 per cent, revealing a decided increase in holding power between these two grades.

The elimination between the ninth and tenth grades and between the tenth and eleventh is now larger than that between the eighth and ninth. The percentage surviving the ninth grade is 85, or a loss of 15 per cent from the ninth to the tenth grades. The percentage loss is the same between the tenth and eleventh grades, but the actual loss in numbers of pupils is slightly less.

The Number of Graduates.—Perhaps the best criterion for determining the extent to which secondary education has reached the masses is the number of those who graduate. To secure a large enrollment is a worthy goal, but attendance through graduation is still better. Not that there is any inherent virtue in the certificate of graduation, but it is an indication that the course of studies has been completed. Although it is better to have attended high school a few years than never to have enrolled at all, it is not unsound to assume that values are gained in proportion to the length of time attended. Growth is a slow process and cannot be hastened beyond certain limits, and furthermore, the secondary-school curriculum is so organized that four years are usually required to complete a cycle of activities of learning, and for the school to fulfill its legitimate functions.

TABLE 30

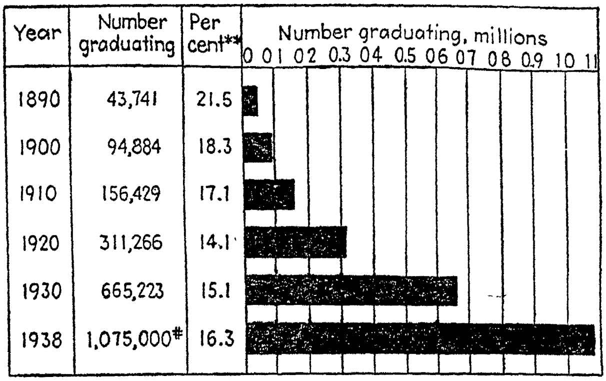
PERCENTAGE OF THOSE FINISHING THE EIGHTH GRADE WHO ENROLL IN HIGH SCHOOL FROM 1927 TO 1935*

Year	Per cent	Year	Per cent
1927	80.0	1932	91.4
1928	82.6	1933	92.1
1929	86.2	1934	93.4
1930	89.8	1935	95.3
1931	94.7		

* Emery M. Foster, School Survival Rates, *School Life*, 23 (March, 1938) pp. 265–266.

In Fig. 15 is shown the increase in the number who graduated from high school from 1890 to 1938. The number has increased from 43,731 to 914,853, and it is estimated that over one million graduated in 1940. The increase is further shown by the fact that in 1934, 491 graduated for each 1,000 who entered while in 1914 only 380 graduated for each 1,000 who entered.

The increase in the number of graduates is to be expected since the secondary-school population has also increased, but, since the number graduating was computed on a percentage basis, an increase shows that the holding power through graduation has increased.



Year	Number graduating	Per cent**
1890	43,741	21.5
1900	94,884	18.3
1910	156,429	17.1
1920	311,266	14.1
1930	665,223	15.1
1938	1,075,000#	16.3

FIG. 15.—Students graduating from high school from 1890 to 1938. (*Biennial Survey of Education*, 1932–34, *U.S. Office of Education Bulletin* 2, 1935, p. 8.) # Estimated from previous reports and trends by David T. Blose, Graduates of Colleges and Secondary Schools, *School Life*, **24** (March, 1939), p. 182. ** Percentage of graduates referred to total high-school enrollment.

How Many High-school Graduates Continue Their Education?—Although the number of high-school graduates continuing their education has increased, the percentage has decreased from 45.8 per cent in 1921 to 29.2 per cent in 1937 (Table 31). The increased number is due to the increased enrollment in the secondary school. The decreased percentage reveals that the secondary-school enrollment has been increased by pupils who do not pursue their education further. As some have stated it, "The high school is the people's college."

The percentages shown in Fig. 15 are poor indicators of holding power, for, as the number of graduates increased, the total school enrollment increased also. The increased enrollment was at the beginning class, making the graduating class a smaller fractional part of the entire school population. To conclude that the number of graduates should be one-fourth of the student body in order to show no elimination would be correct only if the total high-school enrollment remained constant from the time they entered until they graduated.

TABLE 31

PERCENTAGE OF HIGH-SCHOOL GRADUATES CONTINUING THEIR EDUCATION*

Year	College, next year after graduation			Other institutions			Total continuing		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
1921	39.8	22.5	31.4	9.2	15.5	14.4	49.0	38.0	45.8
1927	35.0	27.0	31.2	8.1	15.7	12.3	43.1	42.7	43.0
1933	22.8	19.9	21.3	2.7	4.9	3.8	25.5	24.8	25.1
1937	25.9	22.4	24.0	3.6	6.5	5.2	29.5	28.9	29.2

* Biennial Survey of Education, 1932–34, *U.S. Office of Education Bulletin* 2, 1935, Chap. I, p. 8, and Biennial Survey of Education, 1936–38, *U.S. Office of Education Bulletin* 2, 1937, Chap. V, p. 15. The percentage for 1927 in the last column was given in the original source as 43.5. This was obviously an error and has been corrected here.

FACTORS EFFECTING RETENTION

The determination of the exact cause of pupils being eliminated from the secondary school must be on an individual basis, since there is such a multitude of factors which cause elimination. However, these may be classified into a few major causes: (1) intelligence, (2) sex, (3) socioeconomic status of family, (4) economic reasons, (5) health, (6) accessibility, (7) life-career motive, (8) age, (9) race, (10) failure and retardation, and (11) rural vs. urban centers.

1. Intelligence.—Intelligence as a primary cause of elimination has been overrated. It is true that many pupils found the courses of studies beyond their mental capacities and eliminated themselves or were eliminated by constant failures. However, it would be safe to say that only a very small percentage of adolescents are so deficient in mental ability that they cannot profit by some kind of high-school work. As shown in Fig. 16, of 2,393 pupils in the Pasadena junior high school, only 1.17 per cent had intelligence quotients below 80 and only 8.31 per cent had quotients below 90. Although pupils with I.Q.'s below 90 may and do finish high school, their chances of finishing with this low ability are greatly reduced because of the competition of those of average ability and above average ability.[1] To say that those pupils with low ability cannot profit by high-school work postulates an academic literary curriculum. This is not necessarily true, for a curriculum can be constructed which is adapted to the needs and abilities of those of lower ability.

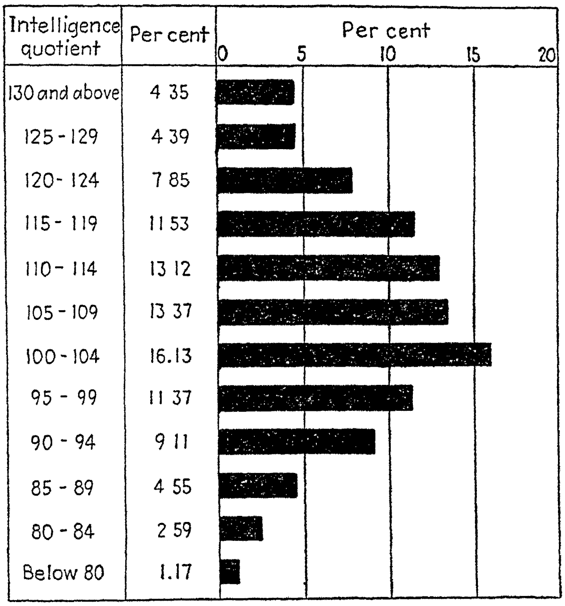


FIG. 16.—Distribution of the intelligence quotients of 2,393 junior-high-school pupils in Pasadena, Calif. [*Drawn from data presented in Educational Accomplishments, Administrative Research Series Monograph* 3, *October*, 1929, *Pasadena, Calif.*]

Rutledge and Fowler[2] found that the average I.Q. of those enrolled in the curriculum preparatory for trade was 92.63 with a standard deviation of 12.46. This means that 50 per cent had intelligence quotients below 92.63 and 16.36 per cent below 80.17 (Table 32). On the other hand, the average I.Q. of the college preparatory group was 111.32 with a standard deviation of 12.87. In this group only 16.36 per cent had I.Q.'s below 98.45 and only 2.28 per cent had quotients below 85.58, which is two standard deviations below the mean. These findings were in close agreement with those of the National Survey of Secondary Education.[1]

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[1] Lewis M. Terman, *The Intelligence of School Children*, p. 90, Houghton Mifflin Company, Boston, 1919.

[2] R. E. Rutledge and A. Fowler, The Changing High School Population and the Curriculum Problem, *School Review*, 40 (February, 1932), pp. 109–114.

TABLE 32

AVERAGE INTELLIGENCE QUOTIENTS OF VARIOUS CURRICULAR GROUPS*

Curriculum	Number of pupils	Percentage of pupils	Mean intelligence quotient	Standard deviation
College preparatory	1941	34.50	111.32	12 87
General	1915	34 04	96 70	12 55
Commercial..........	1323	23.51	99.01	12 09
Trade preparatory...	447	7.95	92 63	12 46
All curriculum..... ..	5626	100.00	102 21	13.69

* R. E. Rutledge and A Fowler, The Changing High-school Population and the Curriculum Problem, *School Review*, **40** (February, 1932), pp. 109–114.

If the school is large enough to have a multiple curriculum and offer a large variety of subjects, even if the pupil cannot profit by one pattern of courses he can, by exploration and guidance, discover those in keeping with his ability. Usually in the small school the curriculum is single, classical, or college preparatory in which there are few electives, affording little or no chance to explore or find work suited to capacities.

Perhaps the best evidence that those who enter the high school do have sufficient ability to profit by the high-school course of studies is found in the fact that they have completed eight years of elementary schooling.

Regardless of the claim that intelligence is not a major factor in elimination, investigations reveal that there is an increase in the average intelligence quotient of pupils in successive years. The average intelligence quotients of pupils of each high-school grade is consistently higher than that of each preceding grade. The report of the National Survey of Secondary Education reveals the following averages of the median I.Q.'s of all curricular groups including 5,290 pupils:[2]

Ninth grade.....	98.6
Tenth grade.......	101.0
Eleventh grade.......................................	103.7
Twelfth grade...	104.5

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[1] G. N. Kefauver, W. H. Noll, and C. E. Drake, The Secondary-school Population, National Survey of Secondary Education, Monograph 4, *U.S. Office of Education Bulletin* 17, 1932, p. 23.

[2] *Ibid.*, pp. 34–35.

This constant increase in the average intelligence quotient of each successive grade shows elimination of those of inferior academic abilities. Dawd[1] gave intelligence tests to 4,184 sixth-grade pupils of Cincinnati, Ohio in 1923–24. Of this group, only 913 graduated from high school. The median percentile rank of the graduates was 73.80 with a range from below 5 to 100. Dawd concluded that pupils with percentile ranks below 25 may graduate, but the probability is slight. Only 1.9 per cent of the graduates had ratings that low, and they remained to graduation only at considerable expense of time by repeating grades and subjects.

Strickland investigated the intelligence of high-school and college students by means of Army Alpha.[2] The data showed that 98.7 per cent of the cases studied scored higher than the median of 67,254 white men drafted in the First World War. It was estimated that one whose intelligence quotient is below the median of the general population has only three chances in 1,000 of graduating from high school, and that (in Kansas) 41 per cent of high-school seniors come from the upper 10 per cent of the population with respect to ability.

These studies agree that those of low intelligence are eliminated in greater proportions than those of higher intelligence. Those of lower intelligence must apply themselves more diligently to schoolwork in order to pass, are less likely to be interested in classical and formal subjects, fail in larger numbers, become retarded and discouraged, and drop out. Revising the curriculum to fit the varying abilities of all pupils will and has reduced the elimination among those of less ability. The average intellectual level of high-school pupils is decreasing. This reveals that the school is enrolling those of less ability, though it is not certain the intelligence of the seniors is changing markedly.[3] Educators are slowly getting away from the idea that the pupil should fit the curriculum and they are subscribing to the idea that the curriculum should fit the pupil. Like Procrustes, pupils are either stretched or reduced in order to meet the standards of the curriculum bed—either treatment being detrimental to his best interests.

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[1] Dawd, C. E., "A Study of High-school Graduates with Reference to Level of Intelligence," *Journal of Educational Psychology*, 23 (December, 1932), pp. 687–702.

[2] Vivian Lewis Strickland, "Relative Levels of Intelligence in High Schools and Colleges," p. 35, University of Nebraska, Ph.D. thesis, Lincoln, Neb., 1925.

[3] Edward A. Rundquist, Intelligence Test Scores and the School Marks of the High-school Seniors in 1929–1933, *School and Society*, 43 (February 29, 1936), pp. 301–304.

2. Failure and Retardation.—Failure is closely associated with low intelligence, which is a cause of retardation, and may be a direct or indirect cause of elimination. Other causes of failure which are related to low ability are a lack of interest, inability to see the need of the subjects being pursued, poor study habits or technique, low reading ability, and a lack of application. Those of low ability are more likely to possess these defects than those of higher mentality. Other causes of failure are illness, poor health, physical handicaps as poor vision, moving from school to school, or poor articulation in the school system. Inarticulation may be defined as any condition in a school system where a pupil's regular progress is inhibited because of faulty curriculum, abrupt changes in subject matter, methods of discipline, or techniques of teaching, faulty administration, or an unsympathetic attitude on the part of the teachers. A pupil may fail because of poor educational guidance or a lack of guidance in selecting courses.

Failure is one of the chief causes of retardation, but not the only cause. Other causes are prolonged absences, losses due to changing schools or changing curriculums, entering school at a late age, or failure to carry a normal load in terms of subjects. As stated before, normal progress is considered a grade a year, and in high school earning on an average four units a year. According to a study made by Fritz[1] in Iowa, the average junior-high-school pupil does not make normal progress, the average ratio between years in school and grade for 38,144 pupils of Iowa being .967 when 1.000 represents normal progress. This indicates that there are more pupils who are retarded than there are pupils who are accelerated. If the average pupil load is adapted to the average student capacity, average progress should not assume that half should be retarded and half accelerated because half are above and half below the average in mental ability. In group instruction, minimum standards are usually low enough so that by a reasonable amount of effort the less capable pupils can make passing marks, while the better pupils are given extra work, or they use their superior ability to make passing marks with a minimum outlay of effort. These conditions, and the fact that there is not perfect correspondence between marks and ability, and a negative relationship between marks and effort, render such an assumption invalid. Either acceleration or retardation are evidence of maladjustment to the school curriculum.

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[1] Ralph A. Fritz, An Evaluation of Two Special Purposes of the Junior-High School: Economy of Time and Bridging the Gap, *University of Iowa Studies in Education,* **4** (November, 1927), pp. 1–80.

In answer to the question "Do those pupils who fail one or more subjects drop out of school in larger numbers than those who do not fail?" one will find contradictory evidence. In 1919 O'Brien concluded from an investigation that the percentages of graduates and nongraduates that failed were almost identical, and that failure was not a prime cause of dropping out for most nongraduates.[1] Palmer, who investigated 470 cases, found that half the pupils who left school had passed in all subjects, but that failure in two or more subjects rarely appeared among pupils who remained in school.[2]

On the other hand Woody and Cushman studied the progress of 698 boys and 726 girls of Denver, from the sixth grade through high school.[3] Of this group, 56.8 per cent of the boys and 45.6 per cent of the girls dropped out of school during the high-school period. The chief reason as given by the investigators was failure and a lack of intelligence causing retardation and overageness. They concluded that normal progress is dependent upon intelligence and that there is a great need for a new challenging curriculum that will fit the needs of all types of pupils.

3. Sex.—In the elementary school there is little difference in the number of boys compared with the number of girls, but in the secondary school until recently the number of girls enrolled exceeded the number of boys. The percentage of boys has increased steadily until at present the sexes are about equal. In 1905, of the high-school population, 42 per cent were boys; in 1936 the percentage had increased to 48.7 per cent.[4]

This may be explained on the grounds that the economic world had a greater attraction for boys while the school curriculum had a greater attraction for girls, or that they were willing to pursue an uninteresting curriculum more readily than boys.

The increase in the number of boys is accounted for in part by the enriched curriculum which accompanied the reorganization of secondary schools, and the curriculum reorganization in the last two decades. The addition of such features as activities, departmentalization, grouping, athletics, and the introduction of new courses and the modification of old ones has made a stronger appeal to boys than did the former program of activities.

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[1] F. P. O'Brien, The High-school Failures, *Teachers College Contributions to Education* 102, Teachers College, Columbia University, 1919.

[2] E. S. Palmer, Why Pupils Leave School, *Vocational Guidance Magazine*, **10** (1931), pp. 295–303.

[3] W. H. Woody and C. L. Cushman, A Study of Continuance and Discontinuance, *Journal of Educational Research*, **30** (November, 1936), pp. 183–187.

[4] See Chap. I, Table 8.

Not only has the percentage of boys enrolled increased, but the percentage of boys graduating from high schools has increased from 38.8 per cent in 1918 to 46.7 per cent in 1938.[1] From this fact it will be seen that although sex is exerting less influence on the holding power of the school, it is still a factor.

4. Socioeconomic Status of Family.—In the past, the high school was populated mostly by those in more comfortable circumstances, and to a great extent this is true today. However, this is getting to be a less important factor in the holding power of the secondary school. Much progress has been made toward greater socioeconomic democratization.

In 1919, Counts[2] studied the selectivity of the high school by obtaining the socioeconomic status of the fathers of 17,265 pupils, using occupations as a basis. The data were secured in St. Louis, Seattle, Bridgeport, Conn., and Mt. Vernon, N.Y. Counts concluded that, in the high schools of the four cities included in the study, occupational groups such as the professional, proprietary, and managerial were present in decidedly greater proportions than those like professional services, public services, and common labor, and that the secondary school was still a highly selective institution.

In order to determine the trends toward greater democratization, Counts's study was duplicated in Seattle and Bridgeport in 1930, just 11 years later.[3] The results showed striking increments from 1920 to 1930 in the proportionate representation in high school of all occupational levels.

An investigation of about 30,000 youth in Pennsylvania who constituted a representative sampling of young people who left school to seek employment showed that the better the economic background from which the boys and girls came, the longer they remained in school.[4]

The economic factor varies considerably in different sections of the United States. In many areas where secondary schools are not easily accessible, it is difficult for many to pay a nonresident tuition fee and also pay for transportation or board. In still others, the factors of clothing and allowance for school and social activities play an important part in whether a pupil finds school attractive or not. This is especially true of rural youth attending a city high school. Many find it difficult to purchase textbooks and other necessary school supplies. Whether a pupil is encouraged by his parents to attend school or not is a factor, for those of a lower socioeconomic status received less schooling themselves and do not encourage their children to remain to graduate from high school.

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[1] Kefauver, Noll, and Drake, *op. cit.*, p. 73.

[2] G. S. Counts, "The Selective Character of American Secondary Education," p. 162, University of Chicago Press, Chicago, 1922.

[3] Kefauver, Noll, and Drake, *op. cit.*, pp. 11–16.

[4] American Youth Commission, Report on Secondary Education, p. 5, American Council of Education, Washington, D.C., 1937.

Younger members of large families have a better opportunity to attend high school than older ones in those families of lower economic status. This is directly due to an increased number of gainfully employed persons per family, which will keep some away from school because of employment and permit a younger brother or sister to attend school.[1] Mortality of the parents, especially the father, is a factor which excludes many from school since they may find it necessary to seek employment.

5. Economic Reasons.—Although many of those who reported they left school for economic reasons could have remained had they so desired, there are many who are unable to attend because of destitute conditions of the family, or because the family is dependent on the earnings of those members who are of secondary-school age.

There has been a marked decline since 1910 in the proportionate number of boys and girls gainfully employed between the ages of 10 to 15 due mostly to child-labor laws. In 1890 the percentage was 26 per cent for boys; in 1930 it was little over 6 per cent. For girls, the percentage dropped from 10 to 3 per cent during the same period. Most of the decrease took place since 1910 at which time the proportionate number employed was about the same as in 1890.[2]

In 1930 there were 235,328 children between the ages of 10 and 13 who were employed, or 24 out of every 1,000 children.[3] The great majority—205,000—were employed in agricultural work; the others were engaged in trades, domestic and personal service, manufacturing, and clerical work.[4] Conditions have improved considerably since 1910 in the proportion of children between the ages of 10 to 15 doing agricultural work.

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[1] Harold, H. Punke, Home and Family Background of High School Pupils, *School Review,* **44** (October, 1936), pp. 597–607.

[2] Population Trends and their Educational Implications, *Research Bulletin of the National Education Association,* **16** (January, 1938), p. 20.

[3] Child Labor: Facts and Figures, *U.S. Department of Labor Publication* 197, Childrens Bureau, 1933, pp. 5–19.

[4] *Ibid.,* p. 6.

Many pupils in the cotton-growing states are kept out of school during the latter part of each summer and the fall in order to pick cotton during those months and enter school along in January. In sugar-beet-growing districts, children do not enter until November. Truck farming has an effect on attendance also.[1]

The White House Conference made the following recommendations concerning child labor:[2]

> 1. A minimum age of 16 should be set for such work as peddling, newspaper selling, or bootblacking.
> 2. Industrial home work should be abolished.
> 3. In agricultural work children under 16 should not be permitted to work during school hours and those under 14 should not be hired out. There is a need for increasing rural school facilities, lengthening the terms, and requiring more regular attendance.

A survey of employment and marriage of high-school pupils made by Punke,[3] revealed that only half as many girls are employed as boys. The question is then asked, "If employment were the chief factor in enrollment, would not the percentage of girls between the ages of 15 to 19 enrolled in schools be twice the percentage of boys?" Since there are not twice as many, employment is not the chief factor. In general, it was found that states having a large percentage of married girls tend to have a smaller percentage of girls enrolled in high school. Massachusetts ranks the lowest in the percentage of married girls (ages 15 to 19) with 4.8 per cent and Arkansas highest with 22.6 per cent while school attendance in these states is just reversed. Among the girls, either a high percentage of marriage or employment is accompanied with a low percentage of high-school enrollment. There is also a great difference between the percentage of youth below the age of 15 in the various states. Nevada is low with respect to girls, with 21 per cent and North and South Carolina high, with 39 per cent each. With boys, California is low, 23 per cent and South Carolina is high, 38 per cent. Due to these differences, comparisons among states on the basis of the per cent attending are not valid.

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[1] Compulsory School Attendance Laws and Their Enforcement, *U.S. Office of Education Bulletin* 4, 1935, pp. 4–5.

[2] Ellen N. Mathews, chairman, "Child Labor," Report of the Subcommittee on Child Labor, White House Conference on Child Health and Protection, pp. 4–11, D. Appleton-Century Company, Inc., New York, 1932.

[3] Harold H. Punke, Factors of High-school Enrollment by Region and Sex, *School Review*, **45** (March, 1937), pp. 200–209.

The National Youth Administration.—Many boys and girls who have the ability and desire to attend high school and college are unable to because of a lack of funds. Recognizing this fact, the National Youth Administration was created by the executive order of President Roosevelt in 1935 to help students in school and give employment to those out of school.[1] It is estimated that 350,000 students would be unable to attend school if it were not for the N.Y.A. part-time jobs. The assistance given is not a dole, but wages paid for work performed by the students. Those eligible must be in need of assistance and between the ages of 16 and 25. In colleges, the applicant must carry at least three-fourths of a regular college program, and in the secondary school earn passing marks in at least three-fourths of his courses carried.

The average monthly income of N.Y.A. students is $6 in high school and $15 in college.[2] In 1936, there were 269,533 high-school students receiving aid and 122,543 college students, who were enrolled in 20,660 high schools and 1,686 colleges and universities. The earnings of this group were over three million dollars.

Champine[3] compared 100 N.Y.A., high-school pupils in Marshall High School, Minneapolis, Minn., with 100 other pupils selected so that they were paired on a basis of sex, school grade, age, and intelligence. The N.Y.A. pupils made lower marks, fewer made normal progress, and more of their families registered with social agencies than those of the control group. There were 41 per cent of the N.Y.A. group who were registered in the juvenile court, as contrasted with 22.7 per cent of the non-N.Y.A. group. Only 1 per cent of the group had parents who were classed as belonging to the professions, while 13 per cent of the others were so rated.

These pupils earned from $3 to $6 a month doing clerical work for the school, the average being $3.88. Of the non-N.Y.A. group, 15 were earning from $1 to $25 a week, the median being $1 a week. The non-N.Y.A. pupils belonged to more clubs and took a greater part in school activities.

6. Health.—Although exact data are not available concerning the extent of elimination and retardation due to ill health, it would be safe to conclude that it is considerable. It is a common occurrence for pupils to be absent from school for several months and drop out of school for the entire semester or year because they were unable to make up the work they had missed. Such cases often lead to discouragement and permanent withdrawals before the secondary course is completed.

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[1] "Facing the Problems of Youth," National Youth Administration, Washington, D.C., December, 1936, pp. 18–19.

[2] "Youth on Relief," National Youth Administration, Washington, D.C., February, 1936, Chart 13. See also Palmer O. Johnson and Oswald L. Harvey, "The National Youth Administration," pp. 23–48, prepared for the Advisory Committee, Government Printing Office, Washington, D.C., 1938.

[3] Majorie R. Champine, National Youth Administration in the High School, *School Review*, **46** (November, 1938), pp. 684–679.

7. Accessibility.—As stated in Chap. I, in those sections which were densely populated secondary schools were made accessible to all who wished to attend, while in mountainous and sparsely settled areas establishing schools in a convenient distance to all was difficult, if not an impossibility. Consolidations which were made possible with improved means of transportation brought secondary education to thousands who otherwise could not have attended. The fact that 39.5 per cent[1] of all high schools enrolled 100 or fewer pupils in 1937–38 reveals the extent to which small schools have been established in thinly settled areas.

Regardless of the extent we have gone in establishing schools, there are many school districts in the United States which do not maintain high schools. For example, in Arkansas in 1935–36 there were 3,101 school districts, 2,600 of which did not contain high schools. These conditions affect about one-half the children of the state, which means that if they were to receive a secondary education they had to pay tuition in a neighboring district, and pay for transportation or board.[2] Only 66.5 per cent of all enumerated white pupils resided in districts providing 12 years of schooling, and only 30 per cent of the Negroes lived in such districts.[3] Pupils in urban areas find it much easier to attend high school than those in rural areas. Only 60.5 per cent of those between the ages of 14 to 17 of rural areas are enrolled in high school, as contrasted with 67.9 per cent in urban centers.[4]

8. Age.—There is an inverse relationship between entrance age and the length of stay in school. Those who enter at a later age are more likely to be eliminated than those who are younger. There are several explanations of this fact.

In a given grade, there is a negative correlation between age and intelligence which means that the younger pupils have higher intelligence quotients. The younger pupils, then, are less subject to failure and retardation, find the courses more interesting, and are more likely to select for a life work one of the professions which requires more schooling. The older pupils have been retarded because of poor health, have failed of promotion, find the curriculum less interesting and more difficult, and will often drop out when they attain the age beyond the compulsory school limits. Since there is also a (slight) positive relationship between socioeconomic status and intelligence, the older pupils are more likely to come from homes of a lower economic level, and are thus subject to withdrawal in order to help support the family, or for other causes in which a lack of funds plays a part.

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[1] See Chap. I.

[2] Crawford Greene, Status of Local School Districts in Arkansas, *The Journal of Arkansas Education*, **11** (December, 1937), pp. 6–7.

[3] Selected Statistics for the School Year 1937–38, *The Journal of Arkansas Education*, **12** (March, 1939), p. 22.

[4] See Table 13, Chap. IV.

The median ages of the 17,180 pupils studied in the National Survey of Secondary Education was 17.7 for boys and 17 for girls. There was some tendency for the pupils in the academic curriculum to be younger than those in the industrial curriculums, although the median ages of different curricular groups showed no great variations.[1]

From statistics gathered by the State Department of Education of Arkansas it was found that the median age of all high-school graduates was 18.2 years (Table 33).

TABLE 33

AGES OF HIGH-SCHOOL GRADUATES OF ARKANSAS FOR THE SCHOOL YEAR 1937–38*

Age	White	Negro	All
14	5	1	6
15	126	13	139
16	1216	37	1253
17	3119	111	3230
18	3188	172	3360
19	1497	156	1653
20	723	123	846
Over 20	314	86	400
Total........	10,188	699	10,887
Median..........	18.2	18.1	18.2

* Selected Statistics for the School Year 1937–38, *The Journal of Arkansas Education*, 12 (March, 1939), p. 22.

9. Race and Nationality.—Race is an important factor in elimination and in the total amount of schooling received. This is true among the Negroes, who receive less schooling than the whites, and also of the American Indians in sections of the West. As shown in Table 34, there is a marked difference between the native whites and the foreign born and Negroes with respect to the percentage enrolled in school at various ages. Considering only the ages from 14 to 17 inclusive, the native whites and foreign-born whites are about equal and superior to the Negro at the age of 14. At 17, or the end of the high-school period, the native whites are superior to all others.

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[1] Kefauver, Noll, and Drake, *op. cit.*, p. 55.

TABLE 34

SCHOOL ATTENDANCE BY AGE, RACE, AND NATIVITY,* PER CENT

Age	All classes	Native white (native parentage)	Native white (foreign or mixed parents)	Foreign born (white)	Negro
14 to 17	69.9*	71.8	71.9	55.6	60.0
14	92.9	93.7	95.8	96.3	83.0
15	84.7	86.1	86.9	89.7	72.9
16	66.3	69.4	64.7	66.2	55.4
17	47.9	52.3	43.5	41.3	36.7

* Fifteenth Census (1930), Population, Vol. 2, p. 1,097.

10. Compulsory Attendance Laws.—The usual age of entrance into the secondary school is 14, and although the majority of states require school attendance beyond this age, work permits may be secured in most states if pupils have attained the age of 14 and have completed certain grades. Forty-two states require school attendance to the age of 16 or more unless work permits are secured, but only 7 states require the completion of the twelfth grade or the attainment of the ages of 17 or 18 unless work permits are granted. The minimum schooling required before work permits may be secured varies from the ability to read and write (7 states) to the completion of the eighth grade (20 states).[1]

From these facts it is evident that if attendance laws are enforced, if pupils cannot secure employment, and if they are not retarded, compulsory education laws would retain the majority of pupils in high school to the tenth or eleventh grade. The attendance laws are not enforced rigidly beyond the elementary school and as a result they are instrumental in holding pupils to the high school but not through it.

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[1] Compulsory School Attendance Laws and Their Enforcement, *op. cit.* pp. 23*ff*, 59.

11. Inarticulation and Elimination.—Inarticulation refers to any condition in the school system whether due to faulty methods of instruction, abrupt changes in discipline or the curriculum, or to faulty administration which will retard the normal progress of a pupil, cause failure, discouragement, loss of interest, or elimination. Any elimination due to inarticulation is caused by internal factors or is a fault of the school, rather than external factors as economic conditions, health, or lack of ability. The abrupt change in the curriculum from the eighth grade to the ninth has caused much elimination due to one's lack of ability to adjust himself. Teachers have often been unsympathetic in their methods of discipline causing pupils to become antagonistic. Many have been expelled or suspended for minor offenses, and their schooling has been terminated. Irregular attendance is caused partly by a lack of interest due to poor articulation. The average daily attendance of pupils has increased from 1880 to 1936 as shown in Table 35 revealing an improved situation.

Studies have been made concerning the holding power of regular and reorganized high schools. One of the claims made for the reor-

TABLE 35

PERCENTAGE OF THE POPULATION BETWEEN THE AGES 5 AND 17 ENROLLED IN PUBLIC SCHOOLS AND THE AVERAGE DAILY ATTENDANCE FROM 1880 TO 1934[*]

Year	School population, ages 5 to 17	Percentage enrolled in school	Average daily attendance,[*] per cent
1880	15,065,767	66	62
1890	18,543,201	68	64
1900	21,404,322	73	69
1910	24,360,888	74	72
1920	27,728,788	78	75
1930	31,571,322	81	84
1936	31,618,000	83	85

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[*] Computed from data given in the Biennial Survey of Education, 1932–34, *U S Office of Education Bulletin* 2, 1935, Chap. II, p. 61, and Biennial Survey, 1934–36, *U.S. Office of Education Bulletin* 2, 1937, Chap II, pp. 61 and 71.

[†] The percentage of average daily attendance was computed from the school enrollment as a base rather than from the total school population. Since both the enrollment and the attendance have increased, the holding power of the school has improved more than the percentages might indicate.

ganized schools was that it would bridge the gap between the eighth and ninth grades and eliminate the tendency for pupils to leave after receiving an eighth-grade diploma.

Kline[1] compared the elimination in three cities with the 8-4 plan with three cities with the 6-3-3 plan and concluded that because of similarity in the two types increased retention was not peculiar to reorganized schools, but was due to social and economic reforms in school curriculums which have affected the regular as well as reorganized schools. He found decreased elimination till the ninth grade, and a marked increase in elimination between the tenth and eleventh grades had occurred between 1900–04 and 1918–29. He concluded that the problem of elimination is now one chiefly concerned with the senior high school.

The reorganized smaller high schools studied in the National Survey of Secondary Education showed greater holding power than the regular high schools of a comparable size. In the reorganized schools the percentage of the ninth grade reaching the twelfth grade was 64 as contrasted with only 51 per cent in regular schools. When larger schools were compared with smaller ones, there were no significant difference in holding power if the type of organization were held constant.[2]

In order to determine the differences in progress made by pupils attending reorganized schools (6-3-3 and 6-2-4 types) and those attending regular (8-4) types, Fritz studied the records of 45,828 pupils of the public schools of Iowa who were attending both types of schools.[3] Progress was determined by the ratio of the total years spent in school divided by the number of grades progressed. For one group of schools he found that progress was slightly higher in the 8-4 schools than in the 6-3-3 types, Table 36, and for another group consisting of 7,684 pupils it was observed that fewer semesters were lost in grades 7 to 9 in the 8-4 schools than in the 6-3-3. It was concluded from this study that in respect to progress rates there is no significant difference between the two types of schools. From an analysis of the same data, Fritz concluded that the 6-3-3 type of organization did not bridge the gap, but merely postponed it one year.

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[1] E. J. Kline, Significant Changes in the Curve of Elimination Since 1900, *Journal of Educational Research*, 26 (September, 1932), pp. 608–616.

[2] The Smaller Secondary Schools, National Survey of Secondary Education, Monograph 6, *U.S. Office of Education Bulletin* **17**, 1932, pp. 18–19.

[3] Fritz, *loc. cit.*

TABLE 36

PROGRESS RATIOS OF 8-4, 6-3-3, AND 6-2-4 SCHOOLS OF 38,144 PUPILS IN IOWA*

Grade	Progress ratio†		
	For 42 8-4 cities	For 11 6-3-3 cities	For 22 6-2-4 cities
6	.970	.968	.970
7	.960	.935	.955
8	.970	.961	.982
9	..	.987	

* Ralph A. Fritz, An Evaluation of Two Special Purposes of the Junior High School: Economy of Time and Bridging the Gap, *University of Iowa Studies in Education*, 4 (November, 1927) pp. 1–80.

† Progress ratio = total years spent in school over years or grades progressed. Any value under 1.00 means retardation; over 1.00 means acceleration.

Home Conditions.—According to Douglass, there is considerable correspondence between the amount of education received by parents and the amount received by their children.[1] Both heredity and environment would account for this relationship. Parents are much alike in the matter of schooling they receive and through heredity a child will receive a capacity; through the home environment, encouragement and stimulation, if not actual compulsion.

It is a common occurrence for parents to desire a better education for their children than they themselves received.

Democratic Nature of School and Holding Power.—All recent studies conclude that the secondary school is becoming more democratic. Formerly it was a school for upper classes. The secondary-school enrollment is now almost a cross section of the total population. The average intelligence quotient has decreased from about 110 to 102—the average for the entire population being 100.

Bell and Proctor have compared the secondary-school population of 1917–18 with that of 1933–34 with respect to intelligence. Although their data represent four California high schools only, they reveal a tendency. In 1917–18 they found that 16.7 per cent of the pupils had I.Q.'s below 95, while in 1933–34 the corresponding per cent was 25.8. The median intelligence quotients were 108 for the 1917–18 group and 104 for the 1933–34 group. These comparisons are presented in Table 37.

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[1] Aubrey A. Douglass, "Modern Secondary Education," p. 62, Houghton Mifflin Company, Boston, 1938.

TABLE 37

COMPARISON OF INTELLIGENCE QUOTIENTS OF PUPILS IN FOUR CALIFORNIA HIGH SCHOOLS FROM 1917–18 TO 1933–34*

Intelligence quotients	1917–18		1933–34	
	Number of pupils	Percentage of pupils	Number of pupils	Percentage of pupils
125 and over	93	9.0	237	8.5
115 to 124	211	20 5	474	17.0
105 to 114	305	29 6	678	24.4
95 to 104	250	24 2	677	24.3
85 to 94	131	12 7	480	17.3
75 to 84	34	3 3	204	7.3
65 to 74	6	6	30	1.1
65 and below	1	1	3	1
Total	1,031	100 0	2,783	100 0

* H Bell and W. M. Procter, High School Populations Then and Now—A Sixteen-year Span, *The School Review*, 44 (November, 1936), pp. 691*ff*.

Socioeconomic status is ceasing to be such an important factor in school attendance. This greater democratization is due to a great extent to the introduction of vocational, commercial, trade, home-arts, and industrial-arts courses and curriculums in secondary schools. Those of lower ability are able to profit by this instruction, and those of lower socioeconomic status are attracted by them. These curricula have also made an appeal to those not destined to pursue a college curriculum.

Terminal Education.—Among the educational goals accepted by the people of the United States is that of secondary education for all youth. The extent to which this goal has been achieved is revealed by the data in Table 38. Only 18.99 per cent of the population 21 years of age or over had some high-school work, and only 6.85 per cent had finished high school.

It was further estimated that the median schooling of the adult population is a little beyond the elementary school, and about 33 per cent have at least entered high school, and 14 per cent have been graduated from high school or continued beyond that point.

The data presented in this chapter reveal that we are approaching that goal, although it is far from being attained.

The educational level of the American people is advancing more rapidly than the general population as evidenced by the number of graduates of colleges and secondary schools who are still living.

The number of students graduating annually from colleges increased 106 per cent from 1923 to 1938 and the number graduating from high schools, 166 per cent. During this same period the general population increased 18 per cent. The number of college graduates estimated to be living in 1938 was 2,775,546 and the number of high-school graduates, 16,350,560.[1]

Table 38

Estimated Education of the Total Population 21 Years of Age or Over (1934)*

Extent of Schooling	Per Cent
College graduates	2 93
Some college only	4 08
High-school graduates only	6 85
Some high school only	18 99
Elementary school grades only	18 68
Some elementary school grades only	43 58
Illiterates	4 89
Total	100.00

* National Survey of Secondary Education, 1932–34, Chap. I, p. 14.

METHODS OF REDUCING RETARDATION AND ELIMINATION

In order to reduce the factors causing elimination and retardation, the following principles might be effective:

1. The school curriculum should be adapted to the intellectual capacities, interests, and needs of the pupils. It appears that we cannot make the pupil fit the curriculum. A more functional course of studies built upon the immediate needs and interests of modern youth will increase the holding power by creating more interest.
2. Increased guidance service which might help to direct pupils into courses more suited to their abilities should be provided.
3. The introduction of more vocational training would hold some students.
4. Improved child-labor laws would no doubt keep some children in school.
5. Increased health service should be provided in the schools.
6. Making secondary education accessible to all by means of consolidation, and transportation would undoubtedly hold some pupils.
7. Tuition of nonresident pupils should be paid by the district in which they live, or by the state.
8. Reduction in the number of failures would reduce retardation and elimination. There is a recent tendency to permit all pupils to pursue a

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[1] David T. Blose, Graduates of Colleges and Secondary Schools, *School Life*, **24** (March, 1939), pp. 182–183.

grade a year and not maintain definite subject-matter standards as a basis for promotion.

9. Compulsory attendance laws should be extended to include secondary education, and should be rigidly enforced.
10. Better articulation between the divisions of our school system and between grades should be provided.
11. Closer home and school relationships will gain greater cooperation on the part of parents in keeping pupils in school.

Summary.—The present chapter has shown the extent to which the secondary school is holding pupils to graduation and the rate of progress pupils make through school. The most outstanding conclusions from a review of the situation are:

1. It is just as important to be able to hold pupils in the high school until graduation as it is to get them in the high school.
2. At present the elimination from school is great. Only about 50 per cent of those who start to high school remain to graduate.
3. The school can do much to reduce elimination. Progress has been made in the last few decades, but we are still a long distance from our goal of universal secondary education.

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CHAPTER VIII

CORE CURRICULUM: BASIS FOR SELECTING ACTIVITIES

The high school has been defined as a social institution designed to meet the needs of a group of pupils commonly referred to as adolescents. Some have even defined secondary education as any training given adolescents. The heart of the entire secondary school and the criteria for determining its success depends entirely on the activities selected to meet these needs, therefore it is essential that as complete and thorough understanding of adolescent characteristics be gained as possible. Without this knowledge, or if it is ignored, the high school will be ineffective, and inefficient, and will be striving blindly to accomplish an undefined task without aims or purposes.

In order to determine the needs of adolescents, attempts have been made to determine the ways in which they will have to function as adults. After that the problem becomes one of finding means of establishing these predetermined behavior patterns in them. These behavior patterns have been grouped around requirements they will have to meet in their vocational efforts, citizenship, family life, and other social responsibilities. The curriculum maker has paid little attention to the adolescent's present personality. The apparent assumption has been that he has no characteristics, or that he is essentially a miniature adult.[1]

The curriculum, which is defined as all the experiences provided by the school for the individual, may be divided into two divisions: the core curriculum, or those experiences which are considered so vital to the development of adolescent personalities that all should pursue them, and the electives, which make provisions for individual differences. The selection of both should be based upon adolescent personality and characteristics.

Definition of Adolescence.—The term "adolescence" comes from the Latin word *adolescere*, meaning to grow up or mature.

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[1] See V. T. Thayer, Caroline B. Zachry, and Ruth Kotinsky, "Reorganizing Secondary Education," pp. 25*ff*, D. Appleton-Century Company, Inc., New York, 1939.

Roughly speaking, the growth of an individual may be divided into three periods: preadolescence, or from birth or puberty; adolescence, or that period between the time when the procreative organs develop to maturity, and postadolescence, from maturity until death. High-school pupils may be divided into three groups with respect to puberty: prepubescence, pubescence, and postpubescence. The ages at which these periods occur fall between the general limits of 12 to 20, although, as will be shown later, exceptional persons may reach puberty before 12 or after 20.

These periods are not sharply marked for there are no fixed turning points. None of the physical indications marking puberty are satisfactory for they lack objectivity and changes are not abrupt, but gradual. Likewise, to determine the degree of maturity by behavior is unsatisfactory, for an adolescent will be childish in one respect and mature in another; and finally, the rates of physical, mental, moral, and social growth are unequal.[1]

Adolescence, then, is a period of one's life without fixed limits, and the time of occurrence and the duration varies with different individuals. In this present discussion the term "adolescence" refers to high-school pupils regardless of their stage of development or age.

It might appear that individual variations are so great that a group study of the adolescent would be precluded, but such a study is possible because there are many common characteristics which typify the average or normal adolescent who might be considered as a composite of many. The secondary-school teacher should be cautioned in applying averages to an individual. Adolescents may be grouped for study and for instruction, but must be treated as individuals within these groups. The value of group study is to determine general characteristics or patterns of behavior in order that one might be more tolerant, sympathetic, and understanding of high-school pupils.

METHODS OF SECURING INFORMATION CONCERNING ADOLESCENTS

There are many popular fallacies and erroneous beliefs prevalent today concerning the adolescent. Many of these may be traced to the work of G. Stanley Hall whose two volumes on the adolescent are still influencing our beliefs concerning this stage of development, but many of these did not originate with Hall. The recognition of states in the development of an individual life was recognized by Aristotle, had been reemphasized by Comenius, and made a vital principle by Rousseau. Rousseau was perhaps the first to introduce the "saltatory" theory of development,[1] that is, that new traits emerge suddenly, by leaps and bounds, rather than the modern view that all traits are present at birth and develop concomitantly save as they are effected by the environment.

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[1] *Ibid.*, pp. 94–95.

Rousseau called the period from 12 to 15 the "age of reason." He claimed that parents were in error when they supposed their children capable of reasoning at an early age, and that children should learn to be satisfied with mere words even if they could not understand them.[2] He was also the originator of the recapitulation theory, that is, employing the history of the race to explain the development of the individual.[3] This theory has little value in illuminating individual development and educationally is not sound. On one point, however, Rousseau made an excellent contribution. He pointed out that the child is not a miniature adult. During Rousseau's time children were dressed and treated as though they were little men and women, rather than immature beings with different characteristics and different modes of thinking, acting, and feeling about their environments.[4]

Other fallacies arise from unscientific methods of study, and from the propensity to generalize from a few specific instances. Three basic theories were prevalent a few decades ago and still exist with many: first, that adolescence was a time of abrupt, radical, and far-reaching changes; second, that these changes took place in the physical, moral, mental, social, emotional, and religious life of the individual; and third, that these changes were stimulated by, or caused by physiological changes associated with pubescence.[5]

Dimock[6] illustrates the extent to which various beliefs are still present as holdovers from the recapitulation and individualistic psychology of the early twentieth century by giving a number of statements about the adolescent to several hundred professional workers with adolescents. The majority of the workers checked as true the following statements:

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[1] Frederick Eby and Charles F. Arrowood, p. 472, "The Development of Modern Education," Prentice-Hall, Inc., 1936.

[2] *Ibid.*, p. 498.

[3] *Ibid.*, p. 471.

[4] *Ibid.*, p. 467.

[5] Hedley S. Dimock, p. 252, "Rediscovering the Adolescent," Association Press, New York, 1937.

[6] *Ibid.*, pp. 254–255.

1. The characteristics of adolescence are distinctly different from those in the preceding period.
2. Adolescence is a time when religious experience is most likely to emerge.
3. Adolescence is the most crucial and significant period of life.
4. An individual usually becomes more clumsy and awkward during adolescence.
5. The biological and physical changes in adolescence are largely responsible for moral, social, and religious changes.
6. The development of childhood and adolescence reflects the stages in man's racial evolution.
7. The gang is a natural and almost inevitable accompaniment of adolescence in boys.
8. Adolescence represents a new birth, when the higher and more completely human traits are really born.
9. Character and personality begin to take definite form in adolescence.

These are traditional theories and recent studies have found them to be false. The discussion which follows will reveal how easy it is to arrive at a false reason or cause for an observed action or to designate as peculiarly adolescent characteristics which one has in his entire life. Likewise, many traits of adolescents are the results of a normal growth and increased chronological age, and because they occur near puberty is not evidence of a cause-and-effect relationship.

Adult Remembrance.—One method of gaining information concerning adolescents is to ask adults about their lives concerning this period. The weaknesses of this are obvious. An adult is inclined to interpret the past in the light of the present, and, if his behavior is of a certain nature as an adult, he is inclined to believe it was the same when he was an adolescent. Likewise, adults might over-estimate, or forget.

Popular Literature.—Popular writers, lecturers, and cartoonists either describe or picture the adolescent in caricature, *i.e.*, exaggerate traits and peculiarities in order to produce a laughable effect. The reader, not knowing these traits have been magnified, is likely to believe them true characteristics.

Faulty Methods of Investigating.—Many of the earlier studies of the adolescent employed the questionnaire or interview techniques of securing data. By this method it was concluded that certain traits and characteristics were limited to this period, while actually these traits might have been possessed both before and after this period. For example, if the question were asked "Did you have strong religious convictions during adolescence?" the interviewed by answering "yes" would not imply that this was the only time in his life he had them, although this inference might be made. These results, unreliable in many respects, formed the basis of many conclusions concerning the adolescent, and, when flavored with a strong imagination, ability to retrospect, and informal observations on the part of the writer, it is obvious how false impressions have been assimilated.

Direct Observation and Study.—The most accurate manner of obtaining information concerning the adolescent is that of going directly to him and making exact measurements and accurate observations. Even this method is difficult, for often an adolescent is reticent in revealing his true feelings, emotions, or beliefs. Physical measurements are more exact, but we still have much to learn concerning the social, emotional, religious, and moral characteristics and growth of adolescents.

Even though certain behavior patterns are observed at this period, it is difficult to assign a cause to them. Merely because two events occur simultaneously, or in close sequence, is not evidence that one is the cause or antecedent of the other. Both may be effects of a deeper cause, or they may be results of natural maturity, physically and socially, and independent of each other.

PHYSICAL GROWTH

The most observable results of growth at the time of puberty or early adolescence are changes in height and weight. Growth is rapid during this period. There is increased height, elongation and ossification of bones, and a rapid growth of muscle tissue which causes an increase in weight. This period of growth is rapid, especially when contrasted with the preadolescent when growth is stabilized. The control of the muscles lags behind their growth causing a temporary lessening of rhythmic action. However, there is substantial improvement in motor ability at the time of most rapid growth in height and weight, although less than the year just prior to puberty. Often a consciousness of this extra size and weight causes an adolescent to be shy, tongue-tied, and retiring, or to try to detract attention from himself.

Sex Differences in Physical Growth.—The growth of boys is not the same as that of girls. From birth to early adolescence boys exceed girls in both height and weight, but beginning with about the tenth to thirteenth years girls exceed boys in height, and from about the ages of 10 to 16 they exceed them in weight (Figs. 17 and 18). After these ages, boys again are taller and heavier than girls, since girls complete their growth several years before boys.

There is also a change in bodily proportions. The legs are too long, subcutaneous fat is lost giving an added thinness, the arms are gangling, and ankles and wrists seem to be fragile in contrast to large hands and feet.[1]

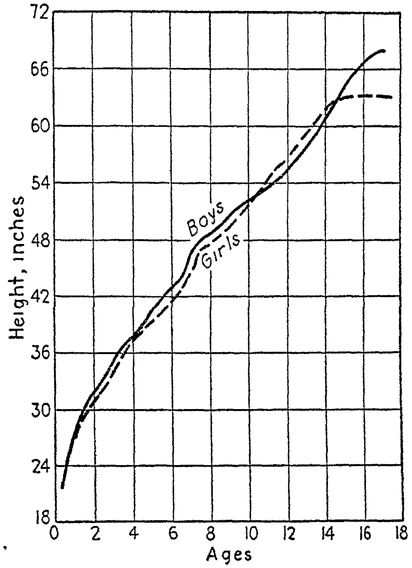

Fig. 17.—Average height of boys and girls from birth to maturity. (*From B. T. Baldwin, The Physical Growth of Children from Birth to Maturity, University of Iowa Studies in Child Welfare,* **1,** *No.* 1, 1921, *pp.* 63, 64, 74, 75.)

At this time there is a disparity between the growth of the heart and the arteries. During childhood the arteries are large compared with the heart, the ratio between the width of the arteries and the width of the heart being 5 to 1. The relative decrease in the size of the arteries puts a strain on the heart for a year or two causing increased blood pressure, which is quite normal.[2]

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[1] Luella Cole, "Psychology of Adolescence," p. 26, Farrar & Rinehart, Inc., New York, 1936.

[2] *Ibid.*, p. 28.

It is also normal for adolescents to experience faintness, dizziness, palpitations, headaches, and restlessness. In athletes, care should be taken not to cause overexertion or overstrain. Plenty of rest is needed as well as exercise. Competitive athletics are far less dangerous for girls than for boys, for most high-school girls have passed through the most dangerous stage. Likewise, moderation should be practiced in social activities as dancing, smoking, late hours, and eating. Undue emotional excitement should be avoided.

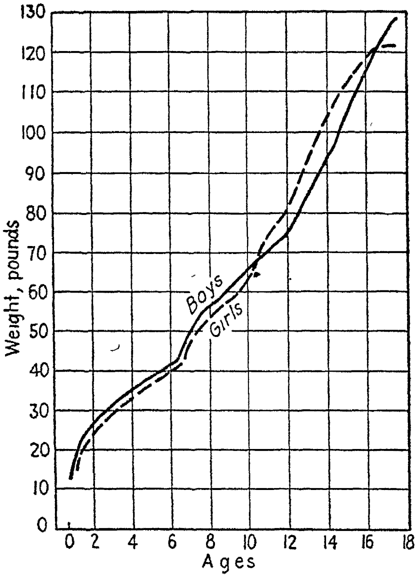

FIG. 18.—Average weight of boys and girls from birth to maturity. (*From B. T. Baldwin, The Physical Growth of Children from Birth to Maturity, University of Iowa Studies in Child Welfare,* 1, *No.* 1, 1921, *pp.* 63, 64, 74, 75.)

There are also changes in the digestive system causing changed appetites and digestive disturbances. Although the brain increases in complexity, it increases very little in gross size. Certain glandular disturbances may also occur. The voice changes in pitch and quality, often causing some embarrassment.

Puberty.—Although the average age of pubescent boys has been estimated to be near the age of 14 (see Tables 39 to 42) and that for girls over a year less, the variation is so great that one cannot tell from chronological age alone whether one is prepubescent, pubescent, or postpubescent. For girls, the variation is from 9 to 18 years of age; for boys it is considerably less, being from 12 to 18. At the ages between 15 and 17, the usual ages at which sex instruction is given, 92 per cent of the girls and 84 per cent of the boys are already mature. If sex instruction is given at all, according to Dimock, it should be at the ages of 9 to 12.[1]

The criterion for determining the onset of puberty for girls is that of the first menstrual period; for boys pubescence is marked by the appearance of pigmented hairs in the pubic region.

Many factors are associated with the onset of puberty, such as race, intelligence, nationality, socioeconomic status, climate, disease, hygenic conditions, and glandular functions. Just what the precise association is cannot be readily determined. The presence of an association is no assurance that there is a cause-and-effect

TABLE 39

THE PUBESCENT STATUS AND CHRONOLOGICAL AGE OF 1,406 BOYS*

Chronological age of boys between	Number of boys	Prepubescent		Pubescent		Postpubescent	
		Number	Per cent	Number	Per cent	Number	Per cent
10 and 11	106	104	98	1	1	1	1
11 and 12	227	188	83	32	14	7	3
12 and 13	347	215	62	86	25	46	13
13 and 14	280	112	40	80	29	88	31
14 and 15	240	32	13	52	22	156	65
15 and 16	115	2	2	9	8	104	90
16 and 17	67	0	0	0	0	67	100
17 and 18	21	0	0	0	0	21	100

* Hedley S. Dimock, "Rediscovering the Adolescent," p. 209, Association Press, New York, 1937.

TABLE 40

THE AVERAGE AGE OF PUBESCENCE AND POSTPUBESCENCE OF BOYS AS REPORTED BY SEVERAL INVESTIGATORS*

Investigator	Date of report	Number of boys	Average age of pubescence	Average age of post-pubescence
Crampton	1908	3835	13.4	14.4
Baldwin..	1916	3600 (city boys)	14.4	15.2
Baldwin	1916	1317 (country boys)	13.9	
Dimock.... .. .	1937	1406	13.08	14.6

* Hedley S. Dimock, "Rediscovering the Adolescent," p. 210, Association Press, New York, 1937.

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[1] Dimock, *op. cit.*, pp. 36–37.

relationship.[1] Physiologically the onset of puberty is caused by the thymus gland found in the neck, which formerly inhibited or opposed the effect of the sex glands. It atrophies at puberty, and finally disappears.[2]

TABLE 41

RELATION OF PUBESCENCE TO AGE FOR 4,800 BOYS, PER CENT*

Age	12 75	13.75	14.75	15.75	16.75	17.75
Prepubescent	69	41	16	5	1	0
Pubescent	25	28	24	10	4	0
Postpubescent	6	31	60	85	95	100

* C W. Crampton, Pedagogical Seminary, **15** (1908), pp 230–237, also American Physical Education Review, **13**, p 150

TABLE 42

RELATION OF PUBESCENCE TO AGE IN 1,241 GIRLS, PER CENT*

Age	10	11	12	13	14	15	16	17
Prepubescent	100	100	62	39	15	0	2	0
Pubescent	0	0	38	35	39	15	6	0
Postpubescent	0	0	0	26	46	85	92	100

* B. T. Baldwin, Fifteenth Yearbook of the National Society for the Study of Education, Part I, 1916, p. 17. Quoted by permission of the Society.

Adolescent Health.—Whether the adolescent is healthier than at other periods of his life is not a decided question. Because of his more rapid physical growth, the different rates at which various organs mature, and the change in their functioning, some are inclined to believe that at this time resistance is lower. Tracy[3] claims that, although the time of most rapid growth, near the ages of 14 and 15, is beset by many ailments, yet the child has such great power of resistance that this is the period of most marked vitality.

Myers,[4] a physician, examined 7,352 boys of New York City between the ages of 14 to 17, and found that 86 per cent were defective in some manner or other. The chief defects found were unclean teeth, underweight, constipation, flat chest, bad heart, tuberculosis, delayed adolescence, and syphilis. There were some cases of gonorrhea detected, and more cases were found among girls than boys. Myers found there was a lower death rate between these ages, and that children at this age show distinct resistance to disease. Of 3,387 boys in Brooklyn, 1,049 smoked—cigarettes mostly. Thirty-two per cent smoked in excess, meaning they smoked over 20 cigarettes a day. Many had smoked since the ages of six or seven. He concluded that it is an age to be watched, studied, and cared for.

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[1] Dimock, *op. cit.*, p. 230.

[2] Floyd L. Ruch, "Psychology and Life," Scott, Foresman & Company, Chicago, 1937.

[3] Frederick Tracy, "The Psychology of Adolescence," p. 36, The Macmillan Company, New York, 1926.

[4] Jerome Myers, *American Journal of Public Health*, **21** (June, 1931), p. 615.

King[1] claims that reserve strength is required in early adolescence, and that much energy is needed for maturing. There is a tendency toward ill-health noted at that period and it might be regarded as a weak age.

MENTAL GROWTH

There are two chief measures of mental development or growth: the mental age, (M.A.) and intelligence quotient, (I.Q.). The former, mental age, represents mental development in terms of growth units found by securing the average mental ability of pupils of different chronological ages. For example, a mental age of 12 means the mental maturity of the average 12-year-old boy or girl. Mental age increases gradually from birth to maturity, each year's increment being about the same as the previous one until about the ages of 14 to 16, when growth decreases in rate to the extent that our intelligence tests are unable to measure accurately further increments (see Fig. 19). This does not mean that mental growth has

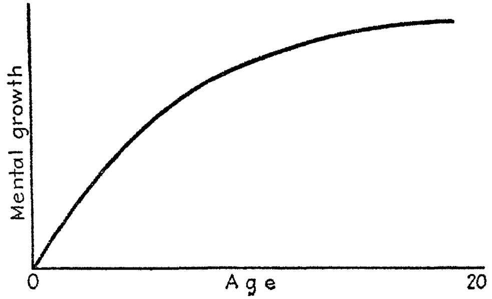

FIG. 19.—Typical mental growth curve (Thorndike). (*E. L. Thorndike, et al., "The Measurement of Intelligence," Bureau of Publications, Teachers College, Columbia University,* 1927, *p.* 467.)

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[1] Irving King, "The High School Age," p. 26, Bobbs-Merrill Company, Indianapolis, 1914.

ceased, but that the rate of growth has become quite low. The upper limits of growth are not known, but investigations show there is growth to the ages of 17 and 18, and perhaps it continues beyond the teen age.

Odom examined scores from the Otis, Dearborn, National Intelligence Tests, and the Illinois Intelligence Test for thousands of cases, and found that scores increased to the age of 17 or over, but the rate was negatively accelerated.[1] Rogers found that girls at Bryn Mawr, Pa., increased their scores on intelligence tests after they were 18 years of age. Although the gains were slight, she concluded that they were significant enough to show that intelligence does continue to grow after the age of 18.[2]

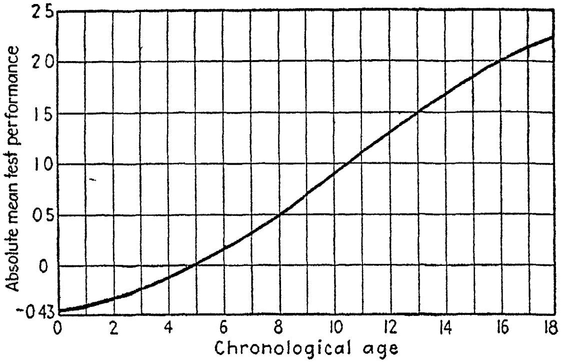

FIG. 20.—Mental growth curve (Thurstone and Ackerson). [*L. L. Thurstone and Luton Ackerson, Mental Growth Curve for the Benet Tests, Journal of Educational Psychology,* **22** *(October,* 1929), *pp.* 569–583.]

Thurstone and Ackerson, believing that comparisons in intellectual growth cannot be shown accurately until we have an absolute scale, plotted the scores made by 4,208 children ranging in ages from 3 to 17 on the Stanford Binet Scale, from a zero point, or that of no variability, located below the mean of fourth-grade ability. The statistical procedure involved was rather technical, but the mental growth curve obtained, shown in Fig. 20, differs from that derived by Thorndike (Fig. 19). The former shows mental growth to be positively accelerated up to the age of 10, with the inflection point at the ages of 9 to 12, which occurs earlier for brighter children.

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[1] Charles L. Odom, A Study of the Mental Growth Curve, *Journal of Educational Psychology,* **20** (September, 1929), pp. 401–406.

[2] Agnes L. Rogers, The Growth of Intelligence at the College Level, *School and Society,* **31** (May, 1930), pp. 693–699.

Both curves are asymptotic to an adult level, that is, they approach a straight line, but do not reach it.[1]

On the whole, it will be noted that, although there is a slight increase in the rate of physical growth at adolescence, there is no evidence of a corresponding rapid growth period or spurt in mentality. The latter is continuous, not spasmodic or saltatory. If irregularities for an individual occur, they may be due to environmental factors.[2]

The Intelligence Quotient.—The intelligence quotient, or I.Q., is a measure of brightness or dullness. It is the ratio between mental age and chronological age, and is found by dividing the mental age (M.A.) in months or years by the chronological age (C.A.) in months or years. For example, if one's M.A. is 12 years and his C.A. is 12 years, his I.Q. would be 12 divided by 12 or 1.00. This is multiplied by 100 to avoid the use of decimals and becomes 100. This pupil is said to be normal for he has the average mental ability of those of his same age. Intelligence quotients above 100 indicate that mental growth has been rapid. Such pupils learn more rapidly than others and are said to be bright. Those with I.Q.'s below 100 have had a slower rate of mental development and are subnormal or dull.

One should get a clear distinction between the I.Q. and the M.A. The M.A. increases with age; the I.Q. during high school is relatively constant. Two pupils may have the same I.Q. but differ widely in the mental age, and, conversely, they may have the same mental age and differ in I.Q. Likewise a pupil's I.Q. will remain the same from year to year as long as his mental age increases at the same rate as his chronological age increases.

There is much discussion as to the constancy of the I.Q. When we say constant, we usually mean that the relationship between successive testings is high. Another meaning is that one keeps the same relative position from the mean of the group measured on that scale.[3] Although there are changes in the indicated I.Q. from repeated testings, these do not vary markedly for high-school ages. The greatest amount of change is during the period of childhood when marked changes have been noted, especially when accompanied with a radical environmental change. The I.Q. becomes more stable with maturity.

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[1] L. L. Thurstone and Luton Ackerson, Mental Growth Curves for the Binet Tests, *Journal of Educational Psychology*, **20** (October, 1929), pp. 569, 583.

[2] H. L. Hollingsworth, "Mental Growth and Decline," D. Appleton-Century Company, Inc., New York, 1930.

[3] Walter F. Dearborn and H. H. Long, On Comparing I.Q.'s at Different Age Levels on the Same Scale, *Journal of Educational Research*, **18** (November, 1928), pp. 265–274.

Matthew gave many retests to pupils of the Cleveland Public Schools, and attempted to find the possible causes for the indicated changes noted in I.Q.'s. Some of the possible causes were: linguistic difficulties, psychopathic tendency, medical problems, and behavior problems.[1] Murchison found coefficients of correlation ranging from .69 to .98 in retesting the same individuals, the median being .85, which shows a rather close relationship.[2] Nemzek, after summarizing 247 studies pertaining to the constancy of the I.Q. as shown by retesting, concluded that changes in the I.Q. due to practice, derived from retesting, training, and the like, tend to be of a transient nature; that is, after an interval of time elapses, fluctuations in the I.Q. due to these factors seem to disappear.[3]

These apparent changes in the I.Q. are probably due to the unreliability in the measuring instruments employed rather than to actual changes in the I.Q. itself. Although problems concerning the causes of changes in the I.Q. are far from being solved, the authors are of the opinion that much of the apparent fluctuation is due to this lack of perfect reliability. It is quite probable that many changes would occur in the magnitude of coefficients of correlation found between retesting of the same individuals if proper allowance were made for the unreliability of the tests used.

Since there is not a perfect relationship between successive testings, the question may be asked, what change may be expected during high school? If one's I.Q. is 100 upon entering high school at the age of 14, the evidence shows that there is about 1 chance in 22 that during a four-year period it will increase or decrease as much as 12 points, and 1 chance in 3 it will change as much as 6 points.[4] Hildreth found from retesting 441 school children on the Stanford Binet tests that the chances are about 1 in 21 that a pupil will change

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[1] Janet A. Matthew, "Notes on Factors That May Alter the I.Q. in Successive Examinations," Part I, pp. 411–421, Twenty-seventh Yearbook of the National Society for the Study of Education, Public School Publishing Company, Bloomington, Ill., 1928.

[2] Carl Murchison, "Foundations of Experimental Psychology," p. 688, Clark University Press, Worcester, Mass., 1929.

[3] Claude L. Nemzek, The Constancy of the I.Q., *Psychological Bulletin*, **30** (February, 1933), pp. 143–168.

[4] Walter Van Dyke Bingham, "Aptitudes and Aptitude Testing," p. 40, Harper & Brothers, New York, 1936.

14 points of I.Q. even when there is not a systematic attempt to alter it.[1]

Relationship between Mental and Physical Growth.—Baldwin found that there is a marked relationship between mental and physical growth. The coefficient of correlation between mental age and anatomical index was .87. This means that those secondary-school pupils who are more mature physiologically are also more mature mentally.[2]

ADOLESCENT TENDENCIES

The terms "drive," "tendencies," and "urges" have replaced the former term "instinct" to denote behavior patterns. William James, in 1892, defined instincts as "the faculty of acting in such a way as to produce certain ends, without foresight of the ends, and without previous education in the performance."[3] According to this definition there are no instincts, for most responses of an individual are conditioned by previous training.

Another cause for the disrepute into which instincts have fallen is the misuse of the concept. Mursell revealed this when he wrote the following statement:

> A survey of 495 books dealing wholly or in part with the topic of human instincts showed that no fewer than 14,046 distinct and separate instincts, divisible into 5,759 different classes, have at one time or another been attributed to mankind.
>
> This immediately explains two things. First it shows us why the notion of instinct seems so convincing. It is convincing because one can so readily invent an instinct to fit every case and explain every problem. Writers, unable to account clearly for the occurrence of a particular behavioristic phenomenon on a purely objective basis, bring in the term instinct, and use it as a charmed word, thus sidetracking further responsibility for an explanation.[4]

Of the many drives or tendencies found in educational literature describing the adolescent a few only will be mentioned, selected on the basis of being most valuable in motivation.

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[1] G. Hildreth, Stanford-Binet Retests of 441 School Children, *Journal of Genetic Psychology*, **33** (1926), pp. 365–386.

[2] B. T. Baldwin and Lorle I. Stecher, Mental Growth Curve of Normal and Superior Children, *University of Iowa Studies in Child Welfare*, **2**, No. 1, 1922.

[3] Hildreth, *op. cit.*, pp. 365–386.

[4] James L. Mursell, "The Psychology of High-School Teaching," p. 82, W. W. Norton & Company, Inc., New York, 1939.

Self-assertion.—According to Arlitt, self-assertion may take four paths: to get power over objects, to get power over people, to defend oneself against one's environment, and to resist control by others.[1] These tendencies manifest themselves in desiring to control some object which may be manipulated and which moves; to be elected to class offices or be managers of groups, and to attract attention by dress or jewelry. In resisting control, adolescents will often pretend to have headaches, be ill, or pretend to faint. Often this resistance will assume the form of stubbornness. Few high-school pupils are so submissive they never rebel occasionally against those in authority.

Gregariousness.—The desire to be a member of a group is a strong drive toward organizing clubs, fraternities, and gangs. They enjoy pass-words, secret signs, and initiations. If the school does not have a well-organized program of activities, clubs will be formed outside the school and will give rise to fraternities that are not desirable. This tendency can be used to great advantage in promoting activities in school. Likewise, pupils do better work when grouped in classes with those who are of the same level of development and who belong to the same social group.

Imitation.—Although none of the drives attributed to adolescents are unique or peculiar to this period, that of imitation is especially one which is present at a much earlier age and continues beyond adolescence. It is detected in dress, manner, speech, activities, and in almost all activities of high-school pupils. It can be used to a great advantage in building character by setting models to be imitated or characters to be emulated.

Attraction toward the Opposite Sex.—Perhaps the strongest drive during adolescence is due to the maturing of sex organs, which cause an increased attraction to the opposite sex. Although sexual attraction has been present before adolescence, it becomes much stronger after the onset of puberty. This sexual awakening is responsible for the numerous adolescent love affairs which often become extremely serious, cause emotional disturbances, daydreaming, and jealousy. Boys will usually "show off" in order to attract the attention of girls and the girls will reveal their charms and either enjoy or pretend to enjoy the activities of boys. These love affairs usually are not of great duration, for they may come and go suddenly. To adults, they are interesting, amusing, and often disgusting. Adolescents feel that adults do not understand them, so they are not taken into their confidence.

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[1] Ada Hart Arlitt, "The Adolescent," p. 34, McGraw-Hill Book Company, Inc., New York, 1938.

Adolescent love affairs cause so many problems they have been given special consideration and study by many. After interviewing thousands of adolescents, Butterfield classified the major problems of adolescents pertaining to their love affairs, and listed them according to the frequency with which they were mentioned:[1]

1. When is petting right and when wrong?
2. Kissing an unengaged girl.
3. What is true love?
4. Girl-made dates?
5. Friendships that become too serious.
6. Marriage differences, race—religion.
7. Engaged petting.
8. Trial marriage.
9. Long engagement.
10. "Two-timers."
11. Blind dates, pickup dates.
12. Birth control.
13. Proper age differences.
14. Educational differences.
15. How to break off engagements.

Butterfield states:

> The sexual drive is not the only or, in many cases, the dominant drive in adolescent life. With long adolescence an accepted fact, many boys and girls are interested in their general acceptability with friends of their own sex as well as those of the opposite sex. Friendships that "get too serious" are often as troublesome as inability to achieve the status of "steady."[2]

EMOTIONAL AND MORAL DEVELOPMENT

It has been said that adolescence is the "heyday" of the emotions. High-school pupils have been described as giggling, simpering, vivacious youth. They change their moods rapidly, and one is never sure what mood will be dominant on any occasion. They may shout, cry, or be solemn at a football game, and giggle in church at one time and be moved to tears a few moments later. Often they will be defiant of authority, show a disrespect for old age, or show such inconsistencies as to write an essay on respect for law and then show no respect for it. In school they will occasionally doubt the most established facts. They are secretive, and romance seems to be a part of their lives. Temporary success elates them and failure depresses. Their pride and vanity are easily flattered and wounded. Their emotions seem to drive them from one extreme to another.

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[1] Oliver M. Butterfield, "Love Problems of Adolescents," p. 182, Emerson Books, Inc., New York, 1940.

[2] *Ibid.*, p. 183.

Arlitt[1] stresses three primary emotions during adolescence: love, fear, and anger. These three may be used as a basis of determining emotional maturity. A boy or girl may be mature in one and not in the others, for they do not necessarily develop at the same rate. Some of the evidences of immaturity are: too much or too little anger, or inability to control temper; inability to face responsibility, and a constant tendency to make excuses for mistakes; possession by so many fears that life is unhappy; a feeling of insecurity; worry over slight errors; and inability to face criticism. Conversely, those who are more mature control their tempers, will accept responsibility, do not need flattery and praise to do their best work, know their own limitations, and have a feeling of general security. Few adolescents pass all these tests.

Added to these emotional conflicts, the adolescent is troubled with various "strains."[2] These are caused by changes taking place in his physical development, and his attempts to make adaptations. Feeling that adults do not understand him, he withdraws from them, and their own ambivalent attitude increases his dilemma. Physically he no longer looks like a child, and, although he is not mature, he is supposed to behave like a man. He is neither the one nor the other. He will be told by his parents at one time to stop acting so childish, that he is now a man, and on the next occasion, when he attempts to make a decision for himself, his parents or teacher will do it for him, telling him he is only a child!

A number of complex emotions as admiration, reverence, gratitude, scorn, contempt, hatred, joy, grief, pity, and shame are increased during adolescence. They are present in childhood, but reach maturity during adolescence.

Moral Development.—The moral development of an adolescent is closely related to emotional development. There are two types of thinking: rational and emotional. If one's emotions are not mature or under control, he is likely to act on impulses rather than reason.

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[1] Arlitt, *op. cit.*, p. 119.

[2] Thayer, Zachry, and Kotinsky, *op. cit.*, p. 103.

A strong sex drive, the desire to keep up with the crowd, extreme anger, hate, or jealousy may cause adolescents to commit crimes their better judgment would condemn. It is not merely a coincidence that the curve of conversion and of crime reach their apex at about the same age. Figure 21 shows the ages at which the greatest number of youthful arrests occur, which is the largest at the age of 19, and the time of conversion for most people is between the ages of 12 and 20, with the greatest frequency at early or middle teens[1] (Fig. 21).

The same emotions responsible for crime may also be responsible for interest in religion and conversion. Growth and physical makeup furnishes the emotion, but environment determines the outlet it will take. Environment is the chief factor in determining the character of moral development. It is not an accompaniment of pubescence or of physiological age.

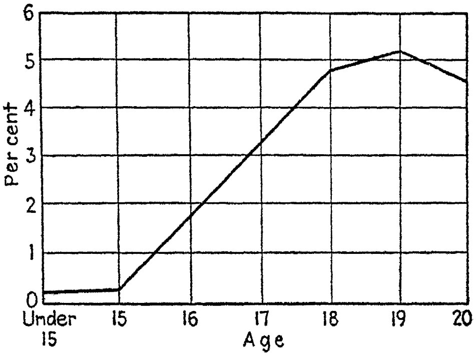

FIG. 21.—Ages at which arrests occur. (*From Uniform Crime Report, U. S. Bureau of Investigation, Fourth Quarterly Bulletin,* 1932.)

If the school furnishes a wholesome environment, a curriculum adjusted to each pupil, an enriched program of activities, opportunity for finding harmless emotional outlets in contests, games, and group cheers and singing, and furnishes supervised social activities, adolescents are not so likely to seek outlets on the streets and highways, or in public amusement centers and dance halls.

Dishonesty.—May and Hartshorne, who made extensive studies of the honesty of adolescents, found that dishonest behavior correlates directly with a number of factors.

> The intelligent pupil cheats less on school tests than the unintelligent, but both the intelligent and stupid cheat more in social situations than the

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[1] Aubrey A. Douglass, "Modern Secondary Education," p. 258, Houghton Mifflin Company, Boston, 1938.

child of average mental ability. Educational maladjustment leads to dishonesty, as shown by increased cheating on the part of retarded children. Emotional instability and suggestibility both correlate positively with dishonest behavior. The level of honesty tends to be similar among friends, or among members of the same family. Finally, honesty correlates highly with the economic and cultural level of the homes from which children come.[1]

The implications for teachers from the studies of deceit are as follows: Teachers can expect cheating in schoolwork from about 35 per cent of children having average ability, about 75 per cent of dull pupils, and even from 25 per cent of the brightest pupils. In athletic contests and social parties she can expect dishonest behavior from between 30 and 50 per cent of adolescents, without respect to the level of intelligence.[2]

Just as one enters a secondary school with a limited ability in certain subjects and is caused to develop and grow in that field through proper instruction, so must one be aided in developing morally. Character training, especially in honesty, must be provided. Just how is not the subject of this discussion, but it certainly should not be neglected or left to incidental learning.

Daydreaming.—Daydreaming, if not carried to excess, is not harmful. It is a means of satisfying thwarted desires, or of escaping the realities of life. Daydreams are usually centered around the dreamer himself, who becomes the hero. Often they are used as a retreat from some difficult task which requires work or courage to complete. Again it will take the form of self-pity, usually motivated by an idea that he has no friends or that parents or teachers are not treating him justly. Love affairs, failure on a test, punishment at school, lack of money, friends, or popularity will cause pupils to spend hours daydreaming. Much of it can be cured by introducing the adolescent to good literature. By reliving the life of characters of fiction, he substitutes adventure for dreaming.

ADOLESCENT INTERESTS

Adolescents have many and strong interests. Often, when they fail to concentrate on school problems, teachers believe they have no interest or lack the ability to concentrate. Actually, they are interested in something else and are probably daydreaming or concentrating on it. They will fluctuate between brief intervals of absorption in sporadic pursuits, and again have a sustained interest in intellectual material. According to Cole:

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[1] Cole, *op. cit.*, p. 157. Based on conclusions found by M. May and H. Hartshorne, "Studies in Deceit," Vol. I, pp. 408–412, The Macmillan Company, New York, 1928.

[2] Cole, *op. cit.*, p. 159.

> Adolescents normally have no great interest in schoolwork, although an occasional class arouses enthusiasm. The normal boy does not like to write any kind of composition; if he must write something, he prefers athletics, travel, outdoor activities, machinery, or vocational matters for his topics. The adolescent girl is little more willing to write. She prefers travel, personal experience, and topics dealing with home or school life as her subjects. Both groups like games in which teamwork is important and complicated rules are enforced. Feminine enjoyment of such games is, however, more likely to be passive than active. Interest in all kinds of social affairs that bring together members of both sexes is high for both boys and girls, although the normal girl shows such interest a year or two sooner than the normal boy. During the entire adolescent period, in fact, the girl has a far more intense interest in social matters than her brother. The normal boy will read books dealing with adventure, a few novels, a fair number of detective stories, travel articles in magazines, and the sporting page of a newspaper. The normal girl reads chiefly romantic novels, a few detective stories, and love stories in magazines. Devotion to the classics is distinctly unusual, not typical.[1]

Briggs,[2] basing his conclusion on a study of adult interests, claims that most adult interests had their origin during adolescence, and that only 3 per cent were reported as having their origin in the curriculums of the secondary school or college. This is a direct indictment against the school, which is also shown by the fact that the interests of the uneducated differ little from those of the educated. "Interests beget interests," and unless one gets a few interests from time to time, he will achieve maturity with very few.

As will be shown in a later chapter, many curriculum-revision movements are building units about interests. It behooves the teacher, then, to discover what adolescent interests are, employ them in her teaching, and make a strong effort to create new ones.

MENTAL HYGIENE

To a great extent the adolescent's conduct is conditioned by his mental attitude, which may be defined as his pattern of thinking. Whether he possesses such traits as honesty and trustworthiness or not, has or has not a respect for the property and rights of others, has a respect for law, order, and authority, and has a respect for the opposite sex, will depend upon his point of view. Actions are outward expressions of thoughts and emotions, and the only way one can detect mental activity is through physical responses, or behavior patterns. Furthermore, one responds to a situation or has a certain reaction because of his attitudes. Therefore, if an adolescent is to be taught to guide and direct his own conduct in a wholesome, healthy, and normal manner, his attitude must be approached as the controlling factor. Criticizing any of his specific activities will not solve the problem. Developing proper attitudes in order that pupils may be better adjusted to their environments and be better able to control their own conducts is referred to as mental hygiene. Partridge says that mental hygiene "is essentially a matter of social relationships," and that "the individual is mentally healthy who has developed the ability to adjust to many different situations in a wholesome way."[1]

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[1] *Ibid.*, pp. 248–249.

[2] Thomas H. Briggs, "Secondary Education," pp. 511, 515, The Macmillan Company, New York, 1933.

Developing wholesome attitudes is the work of the entire school. All teachers should cooperate in working toward the same goals. All activities, courses of study, social functions, and reading should make a contribution.

Evidence and Causes of Maladjustment.—An adolescent is constantly being confronted with problems which require his selecting some course of action whether it is the best one or not. If the pupil is incapable of making correct decisions for himself, or avoids making decisions, he is maladjusted. It is possible that one may be better adjusted in some respects, as adjustment to his curriculum, and not adjusted in others, as socially.

Douglass classifies adolescent problems in five categories: (1) realization of self, (2) vocations, (3) the zest of life, (4) mutual relation of the sexes, and (5) religion.[2] These problems often cause pupils to have conflicts, create emotional disturbance, retire from realities, daydream, engage in immoral practices, or engage in dishonest activities. The problems themselves do not always cause an adjustment problem directly, for other factors, as choice of friends, leisure activities, emotional immaturity, and leisure reading may cause an unhealthy mind which is evidenced by one's behavior with respect to the meeting of his problems.

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[1] E. DeAlton Partridge, "Social Psychology of Adolescence," p. 64, Prentice-Hall, Inc., New York, 1938.

[2] Douglass, *op. cit.*, p. 258.

The specific phases of school life contributing to social adjustment may be discussed separately.

Leisure Reading.—Improper habits of thinking, as daydreaming, thoughts of revenge, and those pertaining to sex, can best be directed by diverting them into more worthy channels through leisure-type reading. The school library should abound in books on adventure and travel and magazines devoted to mechanics, science, photography, handicrafts, and current events. All pupils should have free reading periods in libraries with open shelves, and should be encouraged to use the library for reading and browsing. The best qualities of heroes of literature will furnish models for adolescents to emulate, and if one has made a poor selection of a hero to worship, he should be given another more worthy rather than an attempt be made to "debunk" the one he has.

School Curriculum.—If a pupil is pursuing a curriculum, or courses of study in a curriculum which is not congruous with his interests, needs, and capacities, his reaction may be one of submission to the inevitable or open rebellion. He may seek "escape," that is, seek satisfaction in other forms of activity. If his maladjustment results in failure he may become discouraged or get an inferior feeling. All pupils should be aided in selecting courses and given an opportunity to explore, and transfer from course to course, or curriculum to curriculum, should be made easy. Likewise individual curriculums should be made flexible, so that if a pupil finds he is out of place, he can change to another. This topic of guidance is discussed in greater detail in Chap. XVI.

Selection of Activities.—One of the guiding principles of an activity program is that all pupils should participate in activities, but none should be required. Such a variety of activities should be offered that every pupil will engage in them on his own initiative. One of the great values of activities is in training in leisure time pursuits. Those which have the greatest carry-over value are to be preferred, for school life occupies only a part of one's total hours. Sportsmanship and character can be developed through intramural contests, games, and sports. The inter-school contests should be avoided, for they place too much emphasis upon winning, and not enough on participation.

Selection of Companions.—With mass education, the school can do little or nothing in aiding a pupil to select suitable companions. To advise one pupil against associating with another would be class distinction in an institution founded on democratic principles.

Pupils who have made an unwise selection of out-of-school companions may be counseled, but this is often dangerous, and usually ineffective. Directing those who are easily influenced in the wrong direction into activities of the right nature and in the company of the "right" crowd is a better method of attack than a negative one of prohibition, or counseling.

Religious Conflicts.—Religious conflicts are those caused by out-of-school influences but the child may show evidence or emotional disturbance in school. Since there is a separation of the Church and school, the religious problems of adolescents cannot be directly met in school. If a teacher finds an adolescent who has religious problems, she can give help by making it an individual case and confer with the pupil's parents or pastor, who, in turn, may help.

Sex Education.—One of the most important, and one of the most neglected phases of the training of adolescents, is that of sex education. Butterfield, in his interviews with adolescents in all parts of the United States, found that a majority of the problems of adolescents, as revealed by the questions they asked, pertained to relationships between the sexes.[1] The neglect has not been due to failure to recognize the need but to two chief factors: (1) false modesty, or a reluctance to discuss sex problems openly, and (2) deficient knowledge of the proper techniques of teaching sex relationships. Some instruction has been given in biology classes with excellent results, but the social side, which is perhaps, more important, is just beginning to find a place in secondary-school curriculums.

Much sex instruction may, and should be, given to mixed groups. No teacher should use terms, or discuss topics in classes before segregated groups, he would not use before mixed groups. The only possible exceptions to this case may be made in discussing menstruation and masturbation. The former pertains to girls only, and, although the latter pertains to both, it is more easily approached in segregated groups.

There is a difference between moral and sex knowledge and moral practices. Sex instruction is needed to impart knowledge, but not as much as to develop healthy attitudes. Sex knowledge can be gained incidentally through companions, experience, and cheap literature, but it is often gained in vulgar terms which leave the impression that all sex relations are related to secret vices or that it is something unclean which should never be referred to in polite society. If the instruction is given in school, before mixed groups, proper terms will be learned, wholesome attitudes developed, and by the very process of making the subject an open topic will dispel many false attitudes.

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[1] See Butterfield, *loc. cit.*

IMPLICATIONS FOR CURRICULUM CONSTRUCTION

The construction of secondary-school curriculums and good teaching are directly related to the teacher's knowledge of her pupils. An adolescent is not gifted in the art of retrospection, so it is needless to ask him why he does various things, for he himself does not know. It is necessary, then, for teachers to have a knowledge of adolescents in order that they will be able to guide and direct their learning, motivate them through interests and natural drives, have more sympathy, maintain better classroom control, and in many cases help them preserve their health. Teachers have a great responsibility in developing personality, character, and in aiding pupils to acquire good habits.

A few specific implications for curriculum construction derived from a knowledge of physical, mental, moral, and social characteristics are as follows:

1. Physical:
    - *a.* Overexertion should be avoided.
    - *b.* Rest periods should be observed.
    - *c.* Proper habits of posture should be practiced.
    - *d.* Moderation should be stressed in social activities involving drinking, smoking, and dancing.
2. Mental:
    - *a.* The curriculum should recognize pupils' interests as much as possible.
    - *b.* The curriculum should be congruous with the pupils' capacities.
    - *c.* Gradual changes in subject matter, discipline, and self-control should be introduced rather than sudden and abrupt changes.
    - *d.* The nature of pupil assignments should change as pupils mature.
3. Moral:
    - *a.* An enriched program of activities will fill leisure hours with something worth while. They should have carry over values for out of school use.
    - *b.* Teachers cannot teach religion but they can teach ethical character.
4. Social:
    - *a.* The school should try to break down class distinctions by social grouping and activities.
    - *b.* Social activities should be sponsored and supervised.

Providing a Curriculum to Meet Adolescent Needs.—The secondary school provides for adolescent needs through the experiences provided for them or through the school curriculum. The subjects of the curriculum are divided according to the functions they perform or according to the needs of adolescents. These divisions are:

1. *The Core Curriculum.*—The core curriculum is composed of those experiences in which all pupils should participate. The core performs an integrating service or function. It may be divided into two divisions: (1) the academic and (2) the special.

2. *Electives.*—The electives are designed to meet individual differences. They are outgrowths of the core curriculum and serve various purposes: (1) they permit pupils to pursue further those subjects in which they are interested, (2) prepare for advanced or further study, and (3) give a general background for vocational pursuits.

These divisions of the curriculum will be considered in the order mentioned, interspersed with the nature of individual differences for which the curriculum should make provisions, and followed by general trends in curricular organization and reorganization.

There is some danger in suggesting courses of study by subject-matter names, since the names will convey the impression that the same materials as found in traditional courses are referred to. For example, when the term "mathematics" is mentioned, too frequently it invokes thought of formal algebra and geometry with their rules, equations, symbols, and signs. One should not be concerned over what a course of study is called, but over the content selected for the course and the method by which it is presented. Broad terms are to be preferred to specific ones, *e.g.*, "mathematics" to "algebra," for the latter would perhaps suggest subject matter of a traditional nature.

Materials must be selected for the curriculum on some other basis than that of teaching the content of a subject, or teaching what has always been taught.

Suggested Core Curriculum.—A suggested core curriculum for a six-year high school is shown in Table 43. A suggested list of electives is also presented from which a choice may be made to suit the needs of individual schools. No attempt is made to suggest an exhaustive list of electives. A few typical ones which should be given preference are listed. The core content should be relatively constant for all schools regardless of size or location; the electives

TABLE 43

SUGGESTED CURRICULUM OF CONSTANTS AND ELECTIVES FOR GRADES 7 THROUGH 12

Grade	Constants	Electives
7	English Social studies Science and consumer education Mathematics Physical education, health, and safety Home arts Fine arts and music Industrial arts	
8	English Social studies Science and consumer education Mathematics Physical education, health, and safety Home arts Fine arts and music Industrial arts	
9	English Social studies Science and consumer education Mathematics Physical education, health, and safety Home arts Fine arts and music Industrial arts	Foreign languages Agriculture* Business education†
10	English Social studies Science Mathematics Physical education	Foreign languages Business education‡ Home economics or agriculture Vocational education
11	English Social studies Physical education	Mathematics Science Foreign languages Business education Home economics or agriculture Vocational education
12	English Social studies Physical education	Mathematics Science Foreign languages Business education Home economics or agriculture Vocational education

* May be substituted for science.

† May be substituted for social studies.

‡ Business arithmetic may be substituted for other types of mathematics.

should be varied according to the size and location of the school and the needs and interests of the pupils. If there is adequate articulation between the elementary school and the high school for those organized on the 8-4 plan, many experiences in the seventh and eighth grades will be the same whether those grades are in the elementary or secondary division. For those schools organized on the 8-4 plan, the last four years may be considered for the secondary division.

General Principles on Which the Proposed Core Curriculum Is Based.—In addition to the principles derived from a study of adolescent personality as a basis for curriculum construction, the suggested core curriculum is based also on the following general principles:

1. The two subjects given the most weight are English and social studies, for under these categories are included more needed experiences than any others.
2. Besides the academic content in social studies, English, science, and mathematics needed by all pupils, each one should be required to engage in physical activities, and in activities related to the fine, home, and industrial arts.
3. The majority of the curriculum is prescribed. The few "pure" electives, about four or five, are all offered in the tenth, eleventh, and twelfth grades. Some of the required courses may become "limited" electives, that is, pupils may be given a choice in selecting a specific course from a general field.
4. The number of hours devoted to the constants gradually decreases from the seventh to the twelfth grade, and, conversely, the number of electives increase as one proceeds to the twelfth grade.
5. All pupils will participate in the so-called extracurricular activities, but not as something extra, for they will be completely absorbed by the school curriculum and become an integrated part of school life.
6. The prescribed subjects are congruous with both theory and practice. They also represent the trends in curriculum reorganization which will be revealed in a subsequent chapter, and the subjects either pursued by the majority of pupils or offered by the majority of schools.

As early as 1932, in the National Survey of Secondary Education the following practices were found in courses of studies of the schools studied:[1]

GRADES 7 AND 8

English, social studies, mathematics, and physical education, were required in all schools studied.

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[1] A. K. Loomis, Edwin S. Lide, and B. L. Johnson, The Program of Studies, National Survey of Secondary Education, Monograph 19, *U.S. Office of Education Bulletin* 17, 1932, pp. 268–272.

Fine arts, industrials arts, and home economics were required in two-thirds of all schools.

Science was required in one-half the schools.

Grade 9

English was required in all schools.

Social studies and mathematics were required in a bare majority.

Science was required in almost one-half the schools.

Fine arts, and socializing-integrative activities were required in one-third of the schools.

Industrial arts and home economics were required in one-sixth of the schools.

Grades 10, 11, and 12

English, social studies, and physical education were required by the majority of schools.

Algebra and plane geometry were required by less than half the schools.

About 90 per cent of all work was required in grades 7 and 8, and about 55 per cent of all work in grade 9. The average senior high school required little more than one-half of all work. There is a tendency to increase the required amount of work.

In subsequent chapters each subject of the suggested curriculum will be discussed from the standpoint of its aims, purposes, and contributions to growth, the genetic development of the subject in the secondary school, and its present status. The activities presented are selected about a unifying scheme, namely, man's basic needs, and are subdivided under the four subjects which are usually integrated by unification: social studies, science, mathematics, and English. The basic needs selected are: food, shelter, communication, transportation, cooperation, passing on our heritage, and spiritual and mental life. The activities included are not intended to be inclusive, but suggestive only. They are arranged so that they may be taught on a subject-matter basis and integration secured through incidental correlation (participation or cooperation), or systematic correlation (coordination, fusion, or unification). Although physical education, art, music, home and industrial arts also make contributions to these, they are usually correlated by methods other than unification.

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CHAPTER IX

CORE CURRICULUM: ACADEMIC

As defined in the previous chapter, the core curriculum consists of those activities which are considered so vital in the lives of youth that all should experience them. These activities may be divided into two types, the academic and the special. The academic subjects are those which are more literary, and are more logically organized into a body of subject matter. The academic subjects which are included in the core curriculum are English, social studies, science, and mathematics. Special subjects are less traditional than the academic, and they are less literary. The academic subjects will be considered in the present chapter; the special subjects of the core in a subsequent one.

ENGLISH IN THE CORE CURRICULUM

English is preeminent in the secondary-school curriculum. Regular or special courses are offered in every high school in the United States and almost all pupils are registered in some course in English during every grade.[1] English has greater social utility than any other subject. In its three forms—writing, speaking, and reading—it is employed in all activities of life, vocational and social, and it is the medium through which all other subjects are taught. It is not only a form of communication, but a method of thinking and of expression, without which certain thoughts would not be possible.

Development of English in Secondary Schools.—Although English is a cultural subject today, it was not always considered so. It was taught very little in the Latin grammar school, for at that time the vernacular in any country was considered vulgar. English was not so highly developed at that time which was one reason for its lack of prestige. Franklin proposed that English be taught in the academy, but it was gradually ousted from his school by the Latinists. It began being popular after 1800, when the great number of subjects taught in the academies were divided into two reorganized departments, the classical and the English. Among the subjects offered were English grammar, rhetoric and composition, declamation and forensic exercises. In 1817 English grammar became a requirement for college admission,[1] and in 1821 the Boston English high school was established with English as an important subject. The subjects included were reading, grammar, declamation, rhetoric, composition, and criticism of English authors.

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[1] See Carl A. Jessen, Registrations in Languages, *School Life*, **23** (September, 1937), pp. 22–23.

The important place of English today is shown by the high percentage of pupils enrolled in English courses, the fact that all high schools teach it, and that it is required by every university for entrance. Three units are the usual college-entrance requirement, although a few require four.

At present there are two types of courses in English: those known as regular courses, as English I, II, III, and IV, which are composites of grammar, literature, and oral and written expression, and special courses as journalism, public speaking, and commercial English. The former are more common than the latter, and are the English courses generally required, the others being offered as electives. About 90 per cent of all high-school pupils are enrolled in regular English courses, and many of the remaining 10 per cent are in special courses.[2]

General Objectives of English.—English contributes to the worthy use of leisure time through reading, writing, and social conversation; to vocational efficiency, for there are numerous vocations requiring abilities in oral and written expression and facility and speed in reading; and to ethical character, for through reading one gains vicarious experiences and contacts with characters of fiction and history whose lives he might emulate. Most of the best literature is written not only for entertainment, but for a secondary purpose, such as social reform, to disseminate a philosophy of life, to plead the cause of a forgotten group, or to gain sympathy and understanding of the lives of others. Literature makes a contribution to international relationships, for through it one gains an insight into the lives, culture, and philosophy of peoples of other countries. One learns also to interpret his own life by living over fiction. Perhaps more than any other subject, English contributes to all the legitimate objectives of secondary education.

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[1] I. L. Kandel, "History of Secondary Education," pp. 398–399, Houghton Mifflin Company, Boston, 1930.

[2] Jessen, *loc. cit.*

There are three aims of English as studied from three points of view:[1]

1. As a tool.
    - *a.* Proficiency in reading, writing, and speaking.
    - *b.* Cultivation of habits of study and knowledge of the use of books.
2. As a medium for general culture. Self-discovery through appreciation of literature and other arts.
3. As a cultural discipline. Acquirement of a cultural medium of thought, and knowledge of English (and American) literatures and literary history.

Phases of these are stressed more at certain levels than others, although all are stressed at all levels. In the elementary school it is stressed more as a tool; in senior high school, more as a medium for general culture and cultural discipline.

Specific Objectives of English.—Specifically, the main aims of the teaching of English are to acquire ability to think, to read, to speak, and to write.

English does not aim primarily to teach one to think, but thoughts deal with meanings, and, since words are the chief methods of conveying meanings, it is impossible to engage in more than the simplest thoughts without words and their meanings. Other things being equal, the greater the vocabulary the more thinking one is capable of doing, and word knowledge is one of the most important phases of improving reading.

The elements which compose the three main divisions of English are:[2]

I. Speaking:
    1. Informal conversation.
    2. Giving directions.
    3. Making explanations.
    4. Telephoning.
    5. Speaking before an audience.
    6. Formal and informal debating.
    7. Declamation of memorized material.
    8. Speaking as a character in a drama.

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[1] Ruth Mary Weeks, "A Correlated Curriculum," Report of the Committee on Correlation of the National Council of Teachers of English, p. 81, D. Appleton-Century Company, Inc., New York, 1936.

[2] A. E. Cross and Elizabeth Carney, "Teaching English in High Schools," pp. 31–32, The Macmillan Company, New York, 1939.

- II. Reading:
    - *A*. Oral.
        - 1. Reading aloud to others (informally).
        - 2. Formal reading to an audience.
    - *B*. Silent.
        - 1. To gain information.
        - 2. For entertainment.
- III. Writing:
    - 1. Friendly letter.
    - 2. Business letter.
    - 3. Description, narration of an event, persuasion, and convincement.
    - 4. Creative writing, free writing, or experimental writing.

These elements form the basis of the specific aims of English in high schools. They represent the most common and general needs of all or the majority of persons both for the present and the future. Analysis of written forms of composition by school pupils reveals that a majority of errors made in writing could have been avoided had there been a great mastery of fundamentals of grammar, form, sentence structure, and spelling.[1]

In an analysis of 156 courses of study made by Dora V. Smith, it was found that only 14 made reference to the general objectives of secondary education, and only a faint distinction was made between general and specific aims.[2] The aims found by Smith in this study and arranged by Engelhardt and Overn are presented:[3]

- 1. General aims of composition:
    - *a*. Skill in organization of thought.
    - *b*. Clear expression of thought.
    - *c*. Coherence of thought.
    - *d*. Effective style.
    - *e*. Skill in selecting ideas for expression.
    - *f*. Courtesy in the interchange of ideas.
    - *g*. Mastery in the fundamentals of grammar.
    - *h*. Increase of vocabulary.
    - *i*. Clear, appropriate, and precise choice of words.

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[1] Dora V. Smith, The Contributions of Research to Teaching and Curriculum Making in English, July, 1934, to July 1937, *The English Journal*, 27 (April, 1938), pp. 295–311.

[2] Dora V. Smith, Instruction in English, National Survey of Secondary Education, Monograph 20, *U.S. Office of Education* 17, 1932.

[3] Fred Engelhardt and Alfred V. Overn, "Secondary Education, Principles and Practices," pp. 355–356, D. Appleton-Century Company, Inc., New York, 1937.

- *j.* Mastery of the sentence.
- *k.* Skill in paragraph construction.

2. Specific aims of written composition:
    - *a.* Correctness and mechanical form in such things as punctuation and capitalization.
    - *b.* Outlining.
    - *c.* Letter writing.
    - *d.* Theme writing.
    - *e.* Gathering and evaluating materials.
    - *f.* Ability to follow rhetorical principles.
    - *g.* Ability to use all forms of discourse.
    - *h.* Ability to do creative writing.
3. Specific aims of oral composition:
    - *a.* Correct usage.
    - *b.* Power in organization.
    - *c.* Ability to use sentences effectively.
    - *d.* Appropriate selection of topics and materials.
    - *e.* Effective speaking to an audience.
    - *f.* Poise in speaking.
    - *g.* Enunciation and pronunciation.
    - *h.* Voice control and quality.
    - *i.* Vigorous expression.
    - *j.* Parliamentary form.
    - *k.* Ability to debate.
    - *l.* Oral interpretation of literature.
    - *m.* Cooperative presentation of plays.
4. Integrating and appreciation values of English:
    - *a.* Appreciation of the value of adequate expression.
    - *b.* Increased interest in civic and social affairs.
    - *c.* Independence of thought.
    - *d.* Broadening of interests.
    - *e.* Appreciation of the values of composition.
    - *f.* Observation and interpretation of life through composition.
    - *g.* Ability to meet life's needs in speech.
    - *h.* Development of character and personality.

Organization of English Materials.—Curriculum makers in English were leaders in unifying their own content into composite courses, eliminating the large number of separate courses as English and American literature, spelling, grammar, declamation, rhetoric, composition, and reading. The courses have been organized so that all these phases have been fused. There are still two main divisions, language and literature, but if these are taught by the same teacher, the probability will be great that they will be closely related. A complete separation of the two divisions by years, that is, the teaching of literature one year and of language the next, or having two separate parallel courses, is contrary to the principles of integration. There are several methods of organizing the content to maintain unity:[1]

1. *Unit Organization.*—Units may be so selected and organized that they include all types of literature including drama, poetry, biography, and short story and the novel. Others may have creative writing as their central theme, others speaking, debating, and acting, while still others may embody all of these phases. The core of units may be based upon a social situation, a chronological or geographic order, or a literary type. In any case, the selections will be the same, the only difference being in the grouping.

2. *Alternating Phases.*—Another method consists of alternating languages and literature during each year's work, both being pursued in each year. Literature might be studied for a period of a few weeks, followed by a period of language activities. Although it is practiced, it is not recommended that literature be studied two or three days of each week and language the other days. This breaks the continuity.

3. *Systematic Study by Years.*—A less progressive way, perhaps influenced by college-entrance requirements, is to devote one entire year to American literature, followed by one in English literature, the remaining two years being devoted to language activities. This type of organization is the one progressive education is attempting to get away from, for it consists of teaching the phases of English as though they were unrelated.

Sharing the Responsibility for Instruction in English with Other Teachers.—Since English is used as a medium of expression in all school activities, it is necessary for all teachers to cooperate in instructing pupils. This follows from the general principle that if all persons engaged in the direction of learning activities of pupils do not work toward the same goals, efficiency in learning will not be obtained. In establishing correct habits of speech and proper form and construction in writing, if correct procedure is emphasized and taught only by the English teacher while others permit exceptions, little progress will be made. This is a strong argument for integrating the curriculum. Examples of correlating English with other subjects by the various methods of integrating the curriculum are:[2]

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[1] Cross and Carney, *op. cit.*, p. 10.

[2] *Ibid.*, pp. 32–44.

1. *Participation.*—Participation means that all teachers, through faculty meetings, are made aware of the objectives of English, the pupils' most common errors in speech and written composition, and all agree to do what they can in each class to correct pupils' errors and help improve their English.

2. *Cooperation.*—A synonym for cooperation is "working together." In this plan the papers written in one subject or course after being read for content are handed to the English teacher who considers them as themes. In this manner a close relation can be maintained between English history and English literature and American literature. The same method is followed in science, art, and home economics. The initiative can be taken by the English teacher who ascertains what work is being pursued in other courses and urges the pupils to write themes using the subject-matter content of these courses. After being read for their literary content they may be handed to the appropriate teacher who reads them for subject-matter content.

3. *Coordination.*—The coordination plan is a step further toward unification. Under this plan, two or three teachers coordinate their work; that is, English content parallels the American or European history courses and may include American and European art and science. The coordinating teachers must have frequent conferences and plan their work so teachers of both courses will pursue the same content at the same time, although from a different point of view, and both work toward the same general goals. Subject-matter content appears more important to pupils when this method is followed for it receives emphasis from two seemingly independent sources.

4. *Unification.*—The usual subjects which are unified are English, social studies, science, and mathematics. In this plan each subject loses its identity and the only phases of it introduced are those which make contributions to the units selected.

The extent to which each subject makes a contribution depends upon the unifying scheme. Selecting such a scheme determines whether all activities fit naturally into the pattern. If they do not, they will have the appearance of being dragged in. Mathematics, science, and the social studies unify easily. In many units, English makes decided contributions; in others there seems to be no logical place for certain phases of it. This is also true of other subjects. Throughout an entire year, if units are carefully selected and sequentially arranged, pupils will eventually receive some instruction in most of the phases of English which should be taught; but, *regardless of the unifying basis selected, some phases of subject matter will not correlate; therefore, they should be taught as isolated from the unifying core.*

An example of this is found in literature more than in language, for any unit employs language and suggests a topic for writing themes and essays, and all teachers may teach correct speech and reading; but literature, especially poetry, does not always fit into a unifying scheme. In a unified curriculum, one period a day is often set aside for drill in fundamental operations, which gives additional opportunity to introduce certain material. In literature, perhaps the cooperating or coordinating plan is better for securing integration, while mathematics, social studies, and science may be unified easily.[1]

Trends in the Teaching of English.—Some of the more recent trends in the teaching of English are:

1. The teaching of literature in order to broaden understandings and interests seems to be predominant in courses of study.
2. It is generally recognized that we must develop standards for evaluating what pupils read, and that teachers must develop in pupils lasting interest in reading.
3. English is leading toward a closer relationship with all other subjects in the curriculum.
4. Content is being selected more on the basis of pupil needs and interests.
5. More appreciation and less analysis is being taught.
6. Less formal grammar and more correct usage is being emphasized.
7. Oral composition is receiving greater emphasis than written.

The Content of English Courses.—Since three to four years of English are usually required of all high-school pupils, there is no division of English into required and elective courses. During the four years in high school, each pupil will come in contact with various types of literature; poetry, short story, drama, biography, and history. Instruction will have been given in written and oral composition, and in oral and silent reading. The literature surveyed will include both American and English and will be selected from that type of literature met in everyday life, the type required for social purposes, and the type that the student will most probably enjoy reading for pleasure.

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[1] For a complete discussion of correlating English with all other subjects in the curriculum, see Weeks, *op. cit.*, 326 pp.

The content of the instruction in oral and written expression should be based on the elements needed most frequently. Instruction in reading should include skill in reading biography, fiction, poetry, science, history, sociology, mathematics, and types such as directions, descriptions, tables, graphs, charts, and maps. It should include also the use of books, how to find materials in published sources, use of the library, reference books, and dictionaries.

Contributions of English in a Unified Curriculum.—In order to show the contributions of English to various units in a unified curriculum, the unifying scheme of organization about man's basic needs has been selected. This same scheme may be employed also in coordinating the curriculum, that is, with each teacher presenting phases of the same unit at the same time. As mentioned before, if certain phases of English which should be taught do not fit logically into the unifying or coordinating scheme, they should be taught as independent phases.

The contributions are:

1 and 2. Food and shelter:
  - *a.* The utility of language in barter, trade, commerce.
  - *b.* Reading and writing various types of agreements and contracts.

3 and 4. Transportation and Communication:
  - *a.* Origin and nature of language.
  - *b.* Development of language.
  - *c.* Function of language.
  - *d.* Language difficulties in migration.
  - *e.* Skill in writing various types of messages: telegraph, letters.
  - *f.* Oral communication: social, telephone calls, public speaking.
  - *g.* Reading various types of records: bills, notes, bonds.
  - *h.* Makeup and organization of a book.
  - *i.* The library and its use.
  - *j.* Development of vocabulary.

5. Cooperation:
  - *a.* Reading newspapers and periodicals, especially articles concerning political parties, international relationships, and cooperation between groups.
  - *b.* Learning to evaluate reports of current events.

6. Passing on our heritage:
  - *a.* Literature of various types: history, biography, historical novel, old records, and documents.
  - *b.* Ballads, legends, folklore.

7. Mental, spiritual, and cultural life:
    - *a.* Appreciation of literature and the drama as arts and creation.
    - *b.* Contributions to literature through religious motives.
    - *c.* Literature for recreation and leisure.

THE SOCIAL STUDIES IN THE CORE CURRICULUM

The term "social studies," as employed in secondary education, includes the entire body of the social sciences which have been selected for instructional purposes. As differentiated from the social sciences, the social studies are not so scholarly or scientific, and are designed for instructional purposes. The social studies cover a broad field. The content must be social, and include all subjects which are primarily social.

Development of the Social Studies.—History is the oldest of the separate subjects now forming the composite known as the social studies. It has long been taught and has had its present organization since the sixteenth century.[1] In the Latin grammar school history was taught incidentally through the medium of Latin, but it was a separate subject in the academies. In Franklin's Academy the curriculum included "history, universal and national with chronology, ancient customs, morality, religion, and politics."[2] The Massachusetts law of 1827 prescribed United States history for all high schools, and history other than United States for all larger cities. By 1850 history was required for admission to Harvard and Michigan, geography had been relegated to the elementary school, and in some schools political science made an appearance.[3] In the report of the Committee of Ten, N.E.A. (1893), a committee appointed in 1896 by the American Historical Association, and the Committee of Five, 1907, the social studies other than history were almost neglected. In 1914 the United States Bureau of Education surveyed the status of the social types of history. They found that civics and economics were the most usual offerings other than history, and that the usual history offerings which were required, if any history was required, by years were:[4]

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[1] Edgar Bruce Wesley, "Teaching the Social Studies," pp. 60–61, D. C. Heath & Company, New York, 1937.

[2] Kandel, *op. cit.*, p. 171.

[3] Alexander Inglis, "Principles of Secondary Education," p. 535, Houghton Mifflin Company, Boston, 1918.

[4] *Ibid.*, pp. 541–542.

Year in high school	Required courses	Percentage of schools requiring
1	Ancient history	74
2	Medieval and modern history	45
3	English history	37
4	American history	95

The present program of instruction commonly followed in secondary schools was influenced greatly by the report of the Committee on Social Studies. This committee operated under the Commission on the Reorganization of Secondary Education. The committee made reports called "The Teaching of Community Civics," and "The Social Studies in Secondary Education" in 1915 and in 1916. These reports had a far-reaching influence on practices and social-studies curriculums since they have conformed rather closely to the recommendations made. Later inquiries and investigations such as that of the Commission on the Social Studies have been made, but their effect on immediate practice has apparently been slight.

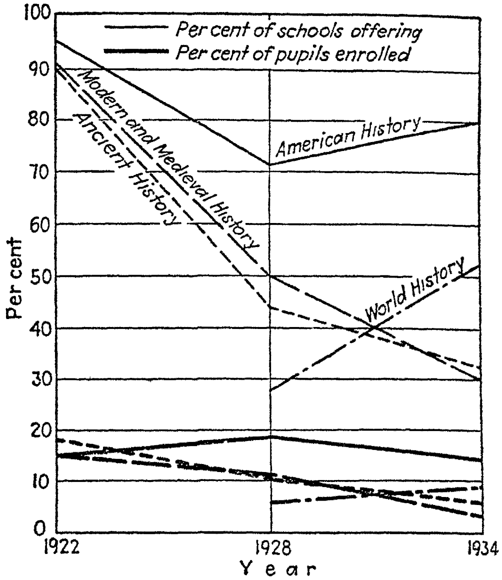

Fig. 22.—Trends in registrations in History. [*Carl A. Jessen, Registrations in History, School Life*, **22** (*April*, 1937), *p*. 243.]

Recent Registrations in the Social Studies.—In Fig. 22 are shown the recent trends in history in the secondary schools. Ancient and modern and medieval histories are decreasing both in the number of schools offering and in the number of pupils pursuing them. American history has increased in the number of schools offering it (since 1928), but shows a decrease in the number of pupils pursuing it, which indicates that more smaller schools are offering the course. The greatest increase, however, is in world history which made its appearance after the First World War. In the number of schools offering, the increase was from 29 to 51 per cent from 1928 to 1934.

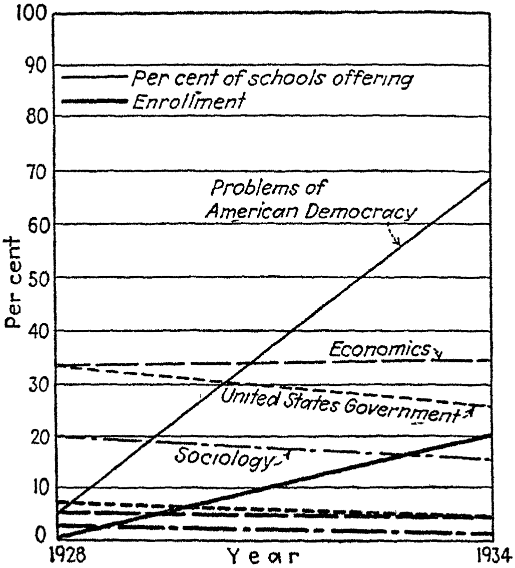

FIG. 23.—Trends and registrations in the social studies. [*Carl A. Jessen, Registration in the Social Studies, School Life,* **22** (*May,* 1937), *p.* 283.]

This course has to some extent replaced the separate courses in ancient and modern history.

Trends in the social studies other than history, shown in Fig. 23 reveal a decrease in the popularity of United States government and sociology, with a remarkable increase in the number of schools offering problems of American democracy and government, which increased from about 5 to 68 per cent from 1928 to 1934.

Most Frequent Curricular Offerings.—Although there is much variation and a wide range of offerings in the social studies, the most common, but not necessarily typical, offerings determined by Wesley by examining 30 courses of study are:[1]

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[1] Wesley, *op. cit.*, p. 136.

Grade	Subjects Offered
7	Early American history, geography, civics
8	Recent American history, civics
9	Civics, ancient and medieval history
10	World history, modern history
11	American history, economics, social problems
12	American history, problems of democracy, economics, sociology, American government

General Objectives of the Social Studies.—Social study is the heart of the curriculum. The entire curriculum can be based on the social studies as they should be the nucleus of all units. This follows from a definition of a social study, which is any course whose subject matter is primarily social. If secondary-school courses are to be related to life, are to be functional, and have social utility, they must have a social core.

Of the general objectives of secondary education, the social studies contribute mainly to citizenship, and indirectly to ethical character, worthy home membership, and worthy use of leisure. In a broad sense, social studies contribute to all aims of education. More specifically, the most frequently stated general objectives as organized by Swindler are:[1]

1. Promotion of sociocivic efficiency.
2. Familiarity in the use of information as basis for judgment and as an end in itself.
3. Making the present world more intelligible.
4. Creating a desire for intelligent, willing participation in civic and social activities.
5. Development of knowledges and appreciation of civic duties, rights, and responsibilities.
6. Development of power to evaluate facts, and of clear, independent thinking and judgment.
7. Creation of knowledge and appreciation of the principles underlying sound and enduring government and society.
8. Promotion of broad interests, tolerance, and sympathy.
9. Increasing knowledge and appreciation of the past as a background for the present.
10. Furtherance of love of country and intelligent patriotism.
11. Ability to analyze propaganda.

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[1] R. E. Swindler, "Social Studies Instruction in the Secondary Schools," pp. 9, 10, 141, Prentice-Hall, Inc., New York, 1933.

Specific Objectives of the Social Studies.—The aims or objectives of the social studies have been clarified recently by the Report of the Commission of the American Historical Association. The following, taken from this source, were arranged by Edgar B. Wesley:[1]

I. Knowledge and information. These consist of outlines of each of the separate social-studies courses.[2]

II. Skill in
  1. Using libraries and institutions.
  2. Using books and materials.
  3. Sifting evidence.
  4. Analysis.
  5. Observation.
  6. Writing.
  7. Making maps, charts, etc.
  8. Memorizing.
  9. Using the scientific method.

III. Habits of
  1. Neatness.
  2. Industry.
  3. Promptness.
  4. Accuracy.
  5. Cooperation.
  6. Economy of time and money.
  7. Patience.

IV. Attitude of
  1. Respect.
  2. Appreciation.
  3. Admiration.
  4. Faith.
  5. Responsibility.
  6. Helpfulness.
  7. Sympathy.
  8. Patriotism.
  9. Tolerance.
  10. Fairness.
  11. Broadmindedness.

V. Qualities of:
  1. Independence.
  2. Will power.

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[1] Wesley, *op. cit.*, p. 170.

[2] See Charles A. Beard, "The Nature of the Social Sciences," Report of the Commission on the Social Studies, Part VII, pp. 193–225 American Historical Association, Charles Scribner's Sons, New York, 1934.

3. Courage.
4. Persistence.
5. Alertness.
6. Imagination.
7. Initiative.
8. Creativeness.

A few of the specific objectives of the separate social-studies courses are:

1. History:
    - *a.* To develop an appreciation of our social heritage.
    - *b.* To acquire a perspective for understanding of contemporary issues.
    - *c.* To develop a reasoned basis for patriotism.
    - *d.* To broaden and extend interests and sympathies.
    - *e.* To develop intelligent citizenship.
2. Economics:
    - *a.* To understand concepts used in business and industry.
    - *b.* To understand man's economic independence.
3. Geography:
    - *a.* To understand man's natural environment.
    - *b.* To develop an appreciation of man's interdependence.
4. Civics:
    - *a.* To understand the organization of government.
    - *b.* To understand how government contributes to public welfare.
    - *c.* To develop a faith in democracy.
5. Sociology:
    - *a.* To understand the nature of group life.
    - *b.* To see the advantage of social cooperation over social conflict.
    - *c.* To develop a toleration for members of other groups.
    - *d.* To evaluate proposed reforms and schemes.

Organization of the Social Studies.—There are many ways of organizing the social studies in secondary schools, all of which have merit, but the most progressive method is to unify the core curriculum or constants about the social studies without respect to subject-matter divisions, and to organize the electives more on a logical basis by subjects. The organization of the constants and the electives may be on a unit basis, or the constants may be organized chronologically, topically, or about problems.

Integration may be achieved by other methods than unification. Those schools which prefer the traditional organization by subjects may integrate the curriculum by any one of the following methods:

1. *Incidental Correlation.*—In this method subject divisions are retained, but the social studies are used to relate all subjects of the curriculum to a common point of view, or give the social setting or background for subject matter of other courses.

2. *Fusion, or Systematic Correlation.*—Fusion is comparable to unification as previously described. The entire curriculum may be fused or the divisions of one subject may be united. Problems of democracy and civics are general courses drawing on all the social subjects—history, political science, economics, sociology, and geography—for materials. World history is a fused course, combining several separate courses as ancient, medieval, modern, and English history, into a composite course with emphasis on the modern periods.

3. *Concentration.*[1]—In this type of integration one subject, as history, is made the core about which relevant materials from other subjects are assembled. The units so organized may follow a chronological order, or cultural epoch periods, as ancient, medieval, and modern, and the entire culture of each period studied in separate courses or as articulated units. In each period the social, aesthetic, religious, cultural and scientific lives of the people are studied.

The sequential relation of topics is important in the social studies. In the elementary school, American history and geography were pursued. In the junior high school pupils learn more of their own government through civics, then pursue European or world history to give a background for a further study of American history in the eleventh grade. During the senior year a more critical attitude may be expected from pupils concerning their own government, due to maturity, background, and experiences. A certain amount of indoctrination is necessary and legitimate in the first eight or nine grades, but as maturity is reached this can be replaced by an analytical study of our own social order.

Trends in the Social Studies.—Trends in the social studies which have been collected from various writers are concerned with all phases of the course, and may serve as a summary of the place of the social studies in the secondary schools.

1. A very definite trend is to obliterate separate courses in the social studies and organize materials about units, topics, problems, or cultural periods.

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[1] Arthur C. Bining, The Teaching of History in Secondary Schools, *Education*, 58 (September, 1937), pp. 35–39.

2. In integrating the curriculum, especially in the required subjects, there is a tendency to make the social studies the core of the entire curriculum.

3. In organizing the courses in the special interest fields subject-matter divisions are being revised. Separate courses are being combined into composite courses.

4. More emphasis is being placed upon the building of good citizens than upon constructing a logical academic curriculum designed to foster erudition. It is being recognized that scholarship is not synonymous with citizenship.

5. The aims of the social studies are being clarified, giving direction to the courses.

6. With respect to methods, more use is being made of visual materials, collateral and extensive reading, especially of current topics, observation tours to show functioning of our government, and the use of discussion and seminar methods rather than the "recitation" method.

7. There is a greater tendency to relate the past with the present, rather than teach the past as an end in itself.

8. The range of subject matter is becoming wider.

Content of Social-studies Courses.—According to Sexson the major functions of society upon which the social-studies program must be based are:[1]

1. Conservation of life, liberty, and property.
2. Production and consumption of food, shelter, and clothing.
3. Transportation of goods, services, people, and ideas.
4. Recreation.
5. Expression of aesthetic impulses, such as art, music, and literature.
6. Religion.

In selecting materials for the core-curriculum content, the same principles and techniques for the entire curriculum are applicable in this field. The objectives of all education and the more specific objectives of the social studies should be the major basis; but certain conditioning factors as the ability, maturity, and past experiences of the pupils, the limitations of the school calendar, library, and equipment, and the local social setting and conditions in international relations will modify and influence the selection of the social-studies content. Some suggested activities selected and organized about units in a unified or coordinated curriculum are:

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[1] John A. Sexson, A Practical Program for the Social Studies, *The Social Studies*, 28 (February, 1937), pp. 53–58.

- I. Food:
  - 1. Economic institutions for securing:
    - *a.* Wholesale and retail stores.
    - *b.* Raw materials.
    - *c.* Media of exchange.
  - 2. Local, state, and international trade
  - 3. Economic geography.
  - 4. Utilities.
- II. Shelter:
  - 1. Housing conditions.
  - 2. Problems of moving.
  - 3. Social institutions provided for:
    - *a.* Sanitation.
    - *b.* Fire prevention.
  - 4. Securing necessities of life:
    - *a.* Manufacturing: labor problems.
    - *b.* Trade and commerce.
  - 5. Police, state, and national guards.
- III. Communication:
  - 1. Media: mechanical devices, books, papers, records, reports, pictures.
  - 2. Effect on popular opinion.
  - 3. Illiteracy and education.
  - 4. Propaganda.
  - 5. International relations and communication.
  - 6. Historical development of communication:
    - *a.* Signals.
    - *b.* Runners.
    - *c.* Pony express.
    - *d.* Modern devices.
- IV. Transportation:
  - 1. Purposes of moving or migrations: food, protection, war, climate, religion, freedom, curiosity, recreation, health.
  - 2. Historical development of method of transportation.
  - 3. Problems in transportation: barriers.
  - 4. Immigration and emigration.
  - 5. Safety in transportation.
  - 6. Effect on social relations.
  - 7. Effect on national relationships: commerce, war, treaties, tariff.
  - 8. Services rendered by government in transportation: parcel post.
- V. Cooperation:
  - 1. Social: historical development of family, clan, tribes.
  - 2. Political: city, state, nation, confederation of nations.

3. Types of political theory.
4. Functions of government.
5. Economic institutions for production, exchange, and distribution of wealth.
6. Institutions for beneficence.
7. Reasons for cooperative enterprises: nonprofitable enterprises.

VI. Passing on our heritage:

1. Heredity and environment.
2. Marriage and divorce.
3. Family relationships and problems.
4. Social heritage: passing on language, numerals, art, literature, modes, customs, traditions.
5. How our heritage is passed on: educational institutions, oral legends, ballads, folklore, churches.
6. Economic heritage: wills, testaments, inheritance.

VII. Mental and spiritual life:

1. History of religious groups and their influence on life, customs, institutions, learning, politics, science, education, art, literature.
2. Public opinion and devices for influencing: radio, press, theater, pulpit, pressure groups.
3. Recreation.
4. Opportunities for culture: art, literature, music, science, travel, pictures.

This is not intended to be a complete or exhaustive list of possibilities. It is presented merely to show the possibilities for working social-studies materials into a core curriculum.

SCIENCE IN THE CORE CURRICULUM

Because of the increased complexity of modern civilization and the advances in technological fields, science is becoming increasingly important. It contributes to more of the cardinal principles of secondary education than any subject in the curriculum and represents a real need in both the present and future lives of all pupils.

Historical Development.—Science was rarely taught in the Latin grammar schools, was in its infancy in the academy, and made its greatest gains in the high school. The earliest course taught in the high schools was called natural philosophy, which was a forerunner of modern physics. During the Civil War period the usual subjects offered were physiology, chemistry, geology, astronomy, botany, and natural philosophy. From 1865 to 1900 zoology made great gains, and astronomy and geology decreased in importance.

Physiology, although retained much longer in the elementary school, together with zoology and botany was combined into a composite course called biology, and by 1922 the Office of Education reported the first appearance of general science which has increased in importance since that time.

Registrations in Science.—In 1910, 82 per cent of the entire high-school enrollment were engaged in the study of some science. By 1928 this had been reduced to 61 per cent. At present, the four main science courses in order of importance are general science, biology, chemistry, and physics (Fig. 24). There was a reduction in the percentage of pupil registrations from 1928 to 1934, although there has been an increase in the number of schools offering science. The reduction in the number of pupils pursuing science courses is not alarming, but should be a challenge to science teachers to reexamine their aims, content, and method.

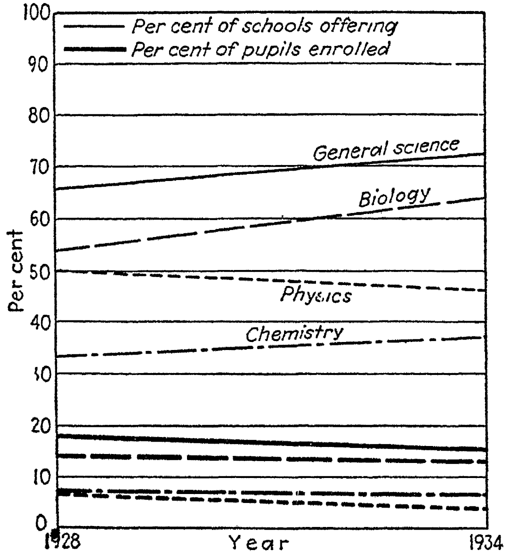

FIG. 24.—Trends in registrations in science. [*Carl A. Jessen, Registrations in Science, School Life,* **22** (*June,* 1937), *p.* 319.]

General Objectives of Science in Secondary Schools.—Science makes a contribution to health, worthy home membership, worthy use of leisure time, command of fundamental processes, vocational efficiency, and citizenship. The present is often called the age of science, so wide and varied are its applications and uses. Health is improved through a knowledge and understanding of the laws of sanitation, hygiene, and some knowledge of the functions of the organs of a human organism; homes are equipped with electrical appliances; fuels as gas, oil, and coal are consumed; nearly all youth need a familiarity with an automobile; purchasing, consuming, getting and preparing a pure food supply all contribute to worthy home membership. Many people are filling their leisure hours with scientific diversions such as photography, radio, amateur chemistry laboratories, or small telescopes. Vocationally, there are hundreds of fields requiring some or much scientific background; typical fields are mechanics, machinery, aviation, automotive industry, radio and photographic work, electricity, and chemistry.

More specifically, but still of a general nature, the objectives of all science instruction as formulated by various writers are:

1. To enable the individual to make satisfactory adjustments to those problems of his environment the solution of which involves scientific facts and principles.
2. To enable pupils to make satisfactory adjustments to increasingly complex problems of a scientific nature.[1]
3. To interpret for the child certain aspects of the world in which he lives.[2]
4. To dispel superstition and erroneous belief.[3]
5. To develop the ability and the habit of applying scientific methods of thinking to the solution of problems.
6. To develop a functional understanding of the major generalizations of science and the development of associated scientific attitudes which will result in life enrichment.

The principal aims of science teaching, as formulated by Noll, are:[4]

1. Understanding of the nature and organization of the environment in order that the pupil may
    - *a.* Be interested in it.
    - *b.* Appreciate the complexity and, withal, the orderliness of it.
    - *c.* Appreciate the place of man in it.
    - *d.* Appreciate the part that science plays in it.

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[1] Aubrey A. Douglass, "Modern Secondary Education," p. 604, Houghton Mifflin Company, Boston, 1938.

[2] Morris Meister, *School Science and Mathematics*, **39** (February, 1939) pp. 103–117.

[3] Wilbur L. Beauchamp, Instruction in Science, National Survey of Secondary Education, Monograph 22, *U.S. Office of Education Bulletin* 17, 1932, p. 13.

[4] Victor H. Noll, "The Teaching of Science in Elementary and Secondary Schools," pp. 13–14, Longmans, Green and Company, New York.

2. Attainment of health through
    a. Appreciation of its value to society and to the individual.
    b. Learning specific habits of healthful living.
3. Acquisition of desirable habits of work and study, including accuracy, thoroughness, persistence, good organization of planning, and neatness.
4. Inculcation of habits of thinking that contribute to the scientific attitude.
5. Development of ability to use the scientific method.
6. Development of ability to do household tasks such as repairing electrical appliances, removing stains from clothing and other goods, caring for house and garden plants, etc.
7. Development of interest in science, chiefly for the worthy use of leisure through reading, hobbies, etc.

Two additional aims applying more particularly to the junior-high-school level are:

8. Opportunities for exploration, for the purpose of
    a. Acquainting the pupil with the different natural sciences, and
    b. Helping him to find whether or not science holds any interest for him, and if it does, where his interests lie.
9. Provisions for vocational education.

These last two are also applicable to science taught in any grade, for the doors of exploration for vocations or for the pursuit of interests should never be closed.

To formulate separate objectives for each division of science rather than for the entire science program helps perpetuate subject-matter divisions. It is advisable for each teacher to formulate specific outcomes to be achieved from a unit or day's lesson, but to have separate course objectives implies that all are not working toward the same goals.

In the National Survey of Secondary Education[1] 160 courses of study were examined for objectives, which were tabulated under the headings of knowledge, abilities, attitudes, ideals and habits, and interests. In the tabulation, the frequency of occurrence of each objective was mentioned, which gave no indication of the importance of each one, for in many courses some of the most important, as "To acquire knowledge necessary to correct superstition and erroneous beliefs," was mentioned only 11 times in 160 courses, revealing it was not considered important. Clear distinctions between general and specific objectives were not found, for both general and specific appeared side by side. The practice of listing of specific objectives by the hundreds for each subject made its appearance after the publication of the Los Angeles course of study in 1923, which resulted in indiscriminate borrowing without understanding of the viewpoint on which it was based, and led to the heterogeneous courses now found.[1]

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[1] Beauchamp, *op. cit.*, p. 14.

According to Beauchamp, the most authoritative formulation of the objectives of science teaching is presented in the Thirty-first Yearbook of the National Society for the Study of Education, in a volume entitled "A Program for Teaching Science."[2] The volume includes lists of specific objectives and activities of various science courses.

Content of Science in the Core Curriculum.—In those schools organized along traditional lines with subject-matter divisions maintained, general science or biology should be required of all pupils. These should be offered in the ninth and tenth grades in order to reach as many pupils as possible before they are eliminated. The content of the general science course should be built about problems with a social background without regard for subject-matter divisions in science. Frequently, general science texts are not general, but consist of chapters of specific sciences intended as a survey course rather than a course to acquaint pupils with their environments. Biology should stress health and sanitation, not by teaching the names of parts of the body as was done in former courses in physiology, but by developing health habits, and creating attitudes and respects for a sound mind and body.

The next step in advance is to have more than one year of general science and to abolish biology as a separate course. Science should begin in the elementary school and be a continuous, articulated course through the ninth grade required of all pupils. This plan would call for three years of science extending through the junior high school. The broad general topics should be built around transportation, communication, food, shelter, clothing, fuels, machines in the home, safety on the highways, sanitation, preventive medicine, plant and animal life, and the physical world in which we live. The course should be made practical and functional by developing concepts, helping pupils make applications, and by relating the content of the curriculum to the present environment of the pupils.

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[1] *Ibid.*

[2] Thirty-first Yearbook of the National Society for the Study of Education, Part I, Public School Publishing Company, Bloomington, Ill., 1932, 370 pp., Chap. IV, Objectives of Science, pp. 41–58.

Integrating Science in the Curriculum.—Science may be integrated easily with the other subjects of the curriculum, and occupies a place almost on a par with the social studies as a core for building units.

In the participation and cooperation plan, the social-studies, mathematics, and English teachers can keep informed of the work of the others and assign topics, reports, or papers to be written which link one subject with another. If a phase of transportation is being studied, it can be related to the social side by considering the westward movement in covered wagons. English teachers may assign topics from science for papers, and deficiencies in mathematics as revealed in science may be mentioned to the mathematics teacher, or, conversely, the mathematics teacher can consider basic skills required in science for her course of study.

It is only a step from this to the coordination method in which the content of the several courses parallel each other. Science played an important part in history and as certain periods of history are studied the scientific discoveries of the time may be considered. The English teacher might simultaneously deal with the literature of the period. To be sure, all courses will parallel each other far more at some time than at others, but, if a constant attempt is made, far more is possible than may be visioned at the outset.

Attempts to integrate the core curriculum by unification should begin by combining science and mathematics around a social-study core. During the writer's experience in building and teaching in a unified curriculum, a need was experienced before unification. In teaching junior-high-school mathematics, some of the units of the text were "Civic Enterprises" involving the purpose of collecting and ways of spending taxes; "Savings and Investments," which involved a study of the bank and insurance company as economic institutions; and "Transportation," which began with why people travel or transport goods, considered the scientific principles of constructing vehicles, and then the cost of constructing and operating. It soon became obvious that to break up these already integrated units for instructional purposes was a process of disintegration and that the most commonsense way to present them was in a body.

A number of topics, experiences, and subjects which should be presented in science in the core curriculum and organized about a unifying scheme are:

I. Food:
  1. Soil: types, how formed, fertility, preservation, conservation.
  2. Water: occurrence, composition, supplying, purifying, rain, dependence of life on water.
  3. Climate: determiners, suitable conditions for life, man's attempts to control climate.
  4. Plants and their uses: domestication, conditions for growth, food supply, other materials from plants, range of growth.
  5. Animals as related to man: domestication, uses of raw materials, migrations, reproduction.
  6. Mineral resources: types of minerals, how formed, preparation, and uses.
  7. Topography: effect of topography on climate, plant and animal life, effect on the character of people.
  8. Seasons: changes and their causes, storing food for winter, effect on plants and animals.

II. Shelter:
  1. Homes: materials of construction, insulation, heating, lighting, ventilating, preserving.
  2. Clothing: man's heating system (oxidation, perspiration) need for clothes, materials, manufacture (dyes, spinning, weaving).
  3. Protection from bacteria, animals, fire, flood, storms, wind, thieves.

III. Communication:
  1. Analysis of speech and musical sounds.
  2. Methods of communicating as telephone, telegraph, and radio, and scientific principles of construction.
  3. The phonograph and sound pictures.
  4. Permanent records: paper, ink, printing, photography.
  5. Acoustics: echoes, reverberations, absorbtion, reflection.
  6. Properties of musical instruments.

IV. Transportation:
  1. Scientific devices in transportation (wheel, engines, and machines, soil, propeller, wings).
  2. Principles of utilizing energy to produce power.
  3. Fuels used to secure locomotion and their efficient use and conservation.
  4. Safety devices (automatic controls, mechanical perfection, materials, personal factor).
  5. Roads (materials, grades, friction).
  6. Transportation of various types of materials (electricity, gas, coal, oil).
  7. Transportation by various methods (land, water, air).

V. Cooperation in securing basic needs·
    1. Technology and large-scale production.
    2. Advertizing: purposes, evaluating.
    3. Flood control, erosion, fire protection, power dams.
    4. General health and sanitation.
    5. Science and its contributions to war and peace.
VI. Passing on our heritage:
    1. Life: reproduction.
    2. Heredity and eugenics.
    3. Sex hygiene.
VII. Mental and spiritual life:
    1. The orderliness of nature.
    2. The beauty and rhythm of nature.
    3. Development of scientific attitude:
        a. Suspended judgment.
        b. Measurement.
        c. Control of variables.
        d. Analysis and synthesis.
        e. Interpretation.
    4. Religion and science.
    5. Limitations and contributions of science:
        a. Utility.
        b. Leisure.

MATHEMATICS IN THE CORE CURRICULUM

Regardless of whether mathematics had its genesis in social and economic utility or whether it originated in the mind of man as an abstraction, the early applications were for gaining a better understanding of a changing physical world; later it was applied to the economic and social life of the people.[1] The application of mathematics to the social, economic, and physical world changed man from a qualitative to a quantitative thinker, and created order out of chaos.

With the exception of the fundamental skills and operations of arithmetic, all mathematics was later placed in the curriculum of the colleges and universities, and was studied as a pure, abstract science separated from its natural setting. The subject became formal and was studied only by those who enjoyed abstract relationships. Later, algebra, geometry, and trigonometry were introduced into secondary schools retaining their organization designed for college students.[1] When the high school was more selective formal mathematics was enjoyed by the majority of pupils, many of whom found some use for it later in college courses. After the expansion period of the high school began (about 1890), the intellectual level of the high-school population gradually declined and a smaller percentage of pupils were able to profit by courses in formal mathematics. Likewise, the percentage of graduates attending college has decreased. However, the percentage of pupils enrolled in mathematics did not decline until about 1910. Since then there has been a steady decrease in the number of pupils pursuing courses in algebra, geometry, and trigonometry. The decline lagged behind the expanded enrollment because the curriculums of most schools were narrow and the offerings limited to the extent that it was necessary to take courses in formal mathematics in order to secure enough credits to graduate. Furthermore, two units of mathematics were usually required to meet college-entrance requirements.

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[1] D. E. Smith, "Mathematics in the Training for Citizenship," p. 18, Third Yearbook of the National Council of Teachers of Mathematics, Teachers College, Columbia University, 1928.

The Reaction against Mathematics.—The first reaction against mathematics came from pupils who questioned the value of algebra and geometry. It was later challenged by the parents, especially those who had not been convinced of its value on purely cultural and disciplinary grounds. Mathematics teachers soon recognized that it was being questioned, as evidenced from the following quotation from Hamley, "We cannot deny that school mathematics in the past has been largely concerned with the mechanical and the abstract and almost wholly unrelated to the child's natural interests and future needs."[2] Teachers are beginning to realize that if mathematics is to win the respect of the average man of affairs it must be made more dynamic and functional.

Criticism was made because there was an utter disregard for individual differences in mathematics, the same amount and kind being offered for every pupil regardless of vocational needs, interests or abilities.[3]

Protests were also made against the unusual number of failures in mathematics, especially in algebra. Potter[4] claims the failures in this subject amounted to as much as 20 per cent of the enrollment prior to 1929.

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[1] E. R. Breslich, "Articulation of Junior and Senior High School Mathematics," p. 1, Eighth Yearbook of the National Council of Teachers of Mathematics, 1933.

[2] H. R. Hamley, "Relational and Functional Thinking in Mathematics," p. 7, Ninth Yearbook of the National Council of Teachers of Mathematics, 1934.

[3] David Snedden, Mathematics in Junior High Schools, *School and Society*, **14** (December, 1921), pp. 619–627.

[4] M. A. Potter, The Drift of Junior High School Mathematics, *School Science and Mathematics*, **29** (June, 1929), pp. 573–580.

Mathematics was challenged also because of its formality, not because of the subject itself, but because of the manner in which it was taught. A certain amount of precise formulation, abstraction, and symbolism is essential, and without these mathematics would become anemic, sterile, and worthless. These types of formal aspects can be retained, but at the same time life can and should be introduced into the subject.[1]

Objectives of Mathematics.—The specific objectives of mathematics recognized by most teachers as found by the National Survey of Secondary Education[2] are those modeled from the recommendations of the National Committee on Mathematical Requirements.[3] The objectives are:

A. Practical aims, *i.e.*, of immediate or direct usefulness in life:
1. Developing the ability to apply fundamental processes of arithmetic.
2. Understanding the language of algebra.
3. Developing the ability to understand and use algebraic techniques.
4. Developing the ability to understand and use graphs.
5. Developing familiarity with geometric forms.
6. Acquiring the ability to understand and use quantitative ideas.

B. Disciplinary aims, *i.e.*, related to mental training:
1. Acquiring ideas and concepts used in quantitative thinking.
2. Developing the ability to think in quantitative terms.
3. Acquiring mental habits and attitudes useful in functional thinking.
4. Acquiring the concepts of dependence and relationship.

C. Cultural aims:
1. Appreciating beauty in the geometric forms of nature, art, and industry.
2. Acquiring the ideals of perfection.
3. Appreciating the power of mathematics.

The first of these aims, those of immediate or direct usefulness in life, are those which have demanded more attention in the last few years than formerly. The practical aims were introduced to make mathematics more functional, and to abolish some of the formality.

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[1] E. R. Hedrick, Formalism in Mathematics Teaching, *The Mathematics Teacher*, 35 (December, 1932), pp. 441–450.

[2] E. S. Lide, Instruction in Mathematics, National Survey of Secondary Education, Monograph 23, *U.S. Office of Education Bulletin* 17, 1932, pp. 65–72.

[3] "The Reorganization of Mathematics in Secondary Education," p. 10, Report of National Committee on Mathematical Requirements of the Mathematics Association of America, 1923.

The disciplinary aim as stated here has validity. It does not denote formal discipline based on the faculty theory as an explanation of the transfer of training adhered to by so many teachers of mathematics, but refers only to developing concepts used in quantitative thinking. Investigations have revealed that students able in mathematical reasoning are not necessarily capable in other types of reasoning.[1] That there is transfer of training is now recognized, but not the type formerly believed by many teachers. The extreme view of formal discipline is well described by Smith in the following quotation:[2]

> The validity of the doctrine of mental discipline depends largely on the definition of the terms. If by mental discipline we mean the theory that memorizing the rules of arithmetic has any potent influence on our memorizing the Book of Job; if it means that ability in algebra produces facility in calculation; or if it means that a high mark in digging out the roots of numerical equations correlates with a high mark in determining whether to buy this kind of motor car or that,—then no thoughtful student of education has ever made such an assertion, and so there is no doctrine of formal discipline to combat.

Betz[3] summarizes the case for and against mental transfer as an aim in mathematics:

1. Both extremists on transfer were wrong. There is a transfer of training.
2. Transfer is not automatic. Attention must be devoted to it, and it is dependent on the way it is taught.
3. Training for transfer is a worth-while aim in mathematics.
4. In most cases transfer is positive. It often is negative in that learning in one subject inhibits learning in another.
5. Nearly all psychologists agree that transfer does exist.

Mental discipline and formal training can no longer serve as the chief support of a program in mathematics which may be of little worth in and of itself. It has become necessary to develop curricular materials which are worth while in themselves. Facts need to be taught in their social setting, if pupils are to learn to utilize the products of mathematical instruction. No longer can the average child be expected to apply facts taught in the classroom to life situations without assistance.

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[1] H. E. Benz, "A Summary of Some Scientific Investigations of the Teaching of High School Mathematics," pp. 20–21, Eighth Yearbook of the National Council of Teachers of Mathematics, 1933.

[2] Smith, *op. cit.*, p. 14.

[3] William Betz, "The Transfer of Training with Particular Reference to Geometry," pp. 149–198, Fifth Yearbook of the National Council of Teachers of Mathematics, 1930.

The cultural aims of mathematics have not been recognized nor understood in the past as they should. The aim as defined by the Mathematical Association includes the appreciation of the place mathematics occupies in our environment, the beauty of form, relationships, and exactness. "That mathematics has beauty has not been generally appreciated. . . . If beauty is an attribute of culture, then cultural mathematics can claim to provide, in a special degree, the food of culture, for order, rhythm, symmetry, and harmony are among the accepted qualities of beauty, and are also among the popular concepts of functional thinking."[1] For a subject to have cultural value it must be enjoyed. To encourage pupils who do not enjoy mathematics courses to pursue them for their cultural value could not possibly result in achieving any cultural outcomes.

Popularity of Mathematics.—Several studies have been made to determine the popularity of high-school mathematics. The approach to the problem has been by means of determining the interest in the subject, and how well it is liked, by direct questioning of pupils. Thorndike[2] questioned 1,300 high-school pupils concerning algebra. The boys placed it in a middle position as to interest while the girls tended to dislike it. Plane geometry ranked below algebra for both groups. Downey[3] found 84 per cent of 7,000 pupils in 15 high schools replied affirmatively to the question, "Do you like mathematics?"

These varying reactions are most probably due to sampling. It is natural to expect that those electing courses in mathematics beyond those required would answer that they enjoyed them. For those pursuing required courses, it would depend to a great extent upon the teacher and her methods.

It is generally believed that pupils as a whole do not like mathematics. This is evidenced by the decline in the enrollment in mathematics from 1910 to 1934, reported for the entire United States. As shown in Fig. 25, from 1890 to 1910 there was a gradual

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[1] Hamley, *op. cit.*, p. 45.

[2] E. L. Thorndike, "The Psychology of Algebra," pp. 386–398, The Macmillan Company, New York, 1926.

[3] Walter F. Downey, Mathematical Interests of High School Pupils, in "The Reorganization of Mathematics in Secondary Education," *op. cit.*, pp. 517–523.

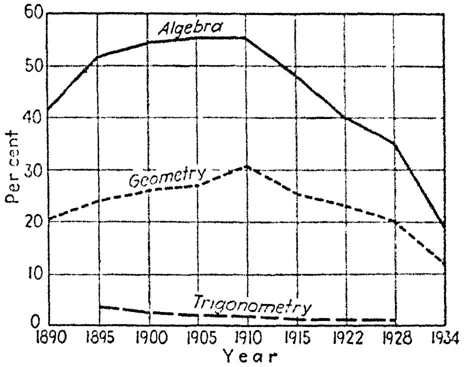

FIG. 25.—Percentage enrollment in algebra, geometry, and trigonometry in secondary schools of the United States from 1890 to 1934. [*Drawn from data presented by Frank M. Phillips, Statistical Summary of Education*, 1927–28, *U S. Office of Education Bulletin* 3, 1930, *p* 437, *and Carl A. Jessen, Registrations in Mathematics, School Life*, **22** (*March*, 1937), *pp* 211–212.]

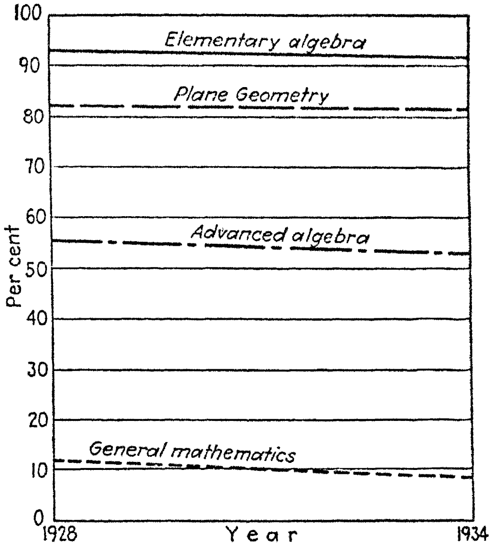

FIG. 26.—Percentage of secondary schools offering courses in mathematics from 1928 to 1934. [*Carl A. Jessen, Registrations in Mathematics, School Life*, **22** (*March*, 1937), *p.* 212.]

increase in percentage enrollments in algebra and geometry; but from 1910 to 1934 there was a gradual decrease. The actual number of pupils enrolled for these courses has increased due to the increased enrollment of the secondary school, but when computed on a percentage basis the increase is not proportional to the total growth. Part of the decrease in the percentage enrollment in algebra and geometry was due to the fact that as the curriculum was enriched and expanded many pupils who formerly took these courses, since they were the only ones offered, pursued courses in other phases of mathematics, such as composite mathematics, or business arithmetic. Part of the decrease was due also to the change in the nature of high-school pupils. The academically selected pupils of an earlier generation were required to take courses, and elected still others.

Algebra is no longer a universally required subject, as it is taken by only 18.8 per cent of all pupils, although it is offered in about 90 per cent of all schools (Fig. 26). As algebra is removed from the required list, fewer pupils take it. In popularity, algebra is first, plane geometry second, advanced algebra third, solid geometry fourth, advanced arithmetic fifth, trigonometry sixth, and general mathematics seventh. From 1928 to 1934 the number of schools offering various types of courses changed very little.

The Reorganization of Mathematics.—Several attempts have been made to reorganize mathematics in order that it would be more interesting, and have greater utilitarian value. These are based on a number of guiding principles, which are:

1. The fundamental skills can be learned in the first six years of the elementary school. In the junior high school pupils need practice and use of the skills learned, plus the addition of new skills.
2. Mathematics should be as informal as possible.
3. Mathematics should not be taught as an end in itself, but as a means to an understanding of present environment. It should not be considered as a tool.
4. A wide variety of mathematics should be introduced to each pupil for social utility and exploratory value.
5. Continuity should be maintained and stressed. Subject matter begun in one year should extend through several years with varied applications.
6. In large schools more than one kind of mathematics should be offered.
7. Intuitive geometry with a few formal demonstrations should be taught in the lower grades and the demonstrative retained until the senior high school.
8. College preparatory mathematics should be eliminated from the ninth grade, and offered only in the senior high school—grades 10 to 12.

9. More arithmetic should be taught in the high school.
10. Vertical, or conventional organization of subject matter should not be held sacred. Mathematics can well be built about a social-studies or science background, or unified with the core curriculum.

Of the various methods of reorganization, the following are typical: (1) general or fused courses, (2) giving mathematics a social-studies background, (3) integration by coordination or cooperation, and (4) integration by unification.

1. *General Mathematics.*—Organization into composite courses in the junior high school, as shown by the National Survey of Secondary Education[1] is more pedagogical than logical. An appeal is made to the child's mind and interests, making the courses social or child centered rather than subject-matter centered. Activities are related to the present and most probable future needs of the pupils, and to materials of local interest. Applications and relationships to other fields are made.

Breslich is, perhaps, the leading proponent of correlated mathematics. At the University of Chicago High School, after correlated mathematics was introduced, failures and withdrawals were reduced and more pupils elected advanced courses.[2] Continuity of subject matter is better achieved in general mathematics, and greater articulation between the junior and senior high school is achieved through a gradual, rather than abrupt, introduction to new subject matter. Stokes[3] compared general mathematics in grades 7 and 8 as prerequisites to ninth-grade mathematics. He found that the pupils who had general mathematics did better in the ninth grade than those who had arithmetic only in the seventh and eighth grades.

2. *Social-studies Background for Mathematics.*—Rosander conducted an experiment in teaching mathematics through a social-studies core or background.[4] The reasons he assigned for the attempted reorganization were that most pupils who study algebra

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[1] Lide, *op. cit.*, pp. 65–72.

[2] E. R. Breslich, "The Development of a Curriculum in Correlated Mathematics and Discussion of Aims, Values, and Results," Studies in Education I, Supplementary Educational Monograph 24, Department of Education, University of Chicago, 1923. Reported in Benz, *op. cit.*, p. 24.

[3] C. N. Stokes, Comparing the Effect of Arithmetic and General Mathematics Training in the Seventh and Eighth Grades upon Achievement in Ninth Grade General Mathematics, *School Science and Mathematics*, **31** (October, 1931), p. 853.

[4] A. C. Rosander, An Experimental Course in Quantitative Thinking, ***The** School Review*, **45** (May, 1937), pp. 337–345.

never use it, the percentage taking mathematics is declining, there is a definite movement to teach more social studies and economic problems, and if the social studies are united with mathematics it will make them more accurate and mathematics more vital.

The chief purpose of the course was to develop a scientific attitude toward social, economic, and political problems by means of quantitative and logical techniques of teaching. The course was divided into units based on the social roles each person will normally play. Thus, each individual is in turn a worker, buyer, consumer, saver, dweller, property owner, taxpayer, voter, neighbor, player, spectator, learner, and communicator.

In this course, mathematics and social studies were integrated. The phases of mathematics which were employed were averages, percentages, ratio, sampling, variation, correlation, trends, and index numbers.

3. *Cooperation and Coordination.*—Mathematics may be coordinated with the core curriculum following the scheme of organizing about basic needs or it may be integrated through a close cooperation of all teachers. Mathematics and science are especially related, and, as shown, the entire course may be given a social-studies background. It is difficult to find any close relation between English and mathematics, but in all other subjects there are numerous quantitative aspects. It is involved in home arts in marketing, budgeting, cutting recipes in half or doubling them (example, what is ½ of ¾ cup of sugar?) and in measurements in sewing and furnishing a home. In industrial arts it has practical applications in measurement, geometry is involved in designing, and in making estimates and computing costs of materials, as lumber. Proportion and symmetry are quantitative aspects of art, and music is a series of mathematical ratios.

4. *Mathematics in a Unified Curriculum.*—In a unified or integrated core in which all subject matter is organized in units, mathematics will be taught first only as it makes a contribution to the development of the unit, and second, remedial work will be given on fundamental operations. During the study of the units, pupils' weaknesses can be diagnosed and remedial instruction given either at the time or during a period devoted exclusively to that purpose.

There are few units which do not involve quantitative relationships. In these cases it is not necessary or advisable to drag in mathematics just to teach it in the unit. The applications are so widely distributed that mathematics does not have to be forced in anywhere; it usually is found necessary. A few of the contributions made by mathematics to units based on fundamental needs are:

I. Securing a food supply.
  1. Relationships between price and quality of various commodities.
  2. Savings from bulk purchases.
  3. Relationship between price trends and quantity buying.
  4. Relationships between seasons and prices.

II. Shelter.
  1. Graphs showing percentage of home owners in the United States.
  2. Relative costs of owning or renting.
  3. Costs of upkeep on homes.
  4. Financing loans for home buildings.
  5. Relative amounts of budget for food, shelter, recreation, travel, and advancement.

III. Communication:
  1. Cost of owning a phone.
  2. Cost of sending messages by various media and at various times of day.
  3. Relationships of costs to distances.
  4. Graphs of the number of telephones for family, for person, in various countries.

IV. Transportation:
  1. Speed of modern agencies: timetable by land and air.
  2. How shipping charges are determined and relative costs by
     a. parcel post.
     b. express.
     c. freight.
     d. air.
  3. Cost of special services:
     a. special delivery.
     b. C. O. D.
     c. insurance.
  4. Relation between speed, distance, and time.
  5. Cost of owning and operating an automobile.
  6. Transporting money: checks, drafts, money orders.
  7. Computing distances on and reading road maps.
  8. Safety: speed and power; speed and stopping distances.

V. Cooperation:
  1. Exchange: money, banking, checks.
  2. Foreign trade.
  3. Credits: bonds, loans, notes.

  4. Taxes: computing rates and taxes to be paid.
  5. Chain stores.
  6. Retail and wholesale prices.
  7. Life insurance.
  8. Civic enterprises: streets, police and fire departments, and their costs.
  9. The cost of education, public welfare, and sanitation.
  10. Comparison of costs of services on a cooperative and individual basis.

VI. Passing on our heritage:
  1. History of mathematics.
  2. Mathematics in the laws of inheritance.
  3. Passing on economic wealth: inheritance taxes, forms of wealth as property and savings.

VII. Mental, spiritual, and cultural life:
  1. Interpreting the orderliness of nature in mathematical terms: ratios, laws, formulas.
  2. The functional concept, or relationship due to
    a. Time and space.
    b. Rhythm.
    c. Form and position.
    d. Function.
  3. The geometry of nature.
  4. Mathematics as an exact science used to explain the universe, the unknown, and religion.
  5. The place of mathematics in recreation and leisure-time pursuits.
  6. Mathematics in art and music.
  7. Mathematics as a form of self-expression, as a medium of communication, and a universal language.

The Content of Mathematics Courses in the Core Curriculum.—The content of the mathematics courses of the core curriculum should be functional, practical, and centered about the needs and interests of the pupils. The majority of the content will be arithmetic, with graphical representation, averages, and percentage, an introduction to the language and vocabulary of algebra, and geometry as related to structure, form and measurement, taught intuitively rather than by formal demonstrations. The chief point of view will be that of leading one to a better understanding of social and economic institutions through the medium of mathematics, and developing habits of quantitative thinking.

Content should be selected from the actual environment of the pupils and should be based as much as possible on their interests. If actual situations are presented and the quantitative aspects considered as a means to a solution, the courses will become vitalized. If drill or repetition is needed it can be vitalized, socialized, and individualized through the applications selected. The mathematical content of subsequent courses which the pupils are most likely to pursue should be examined for fundamental operations, vocabulary, relationships, formulas, and theorems required for success in the subject.

Over and above the mathematics of a practical nature, much mathematics can be taught for its appreciation, such as exact relationships, the beauty of form, and the part mathematics plays in science and in creating orderliness.

Remedial Work in Fundamental Operations.—One of the principles on which the reorganization of mathematics is based is that fundamental operations have been acquired in the elementary school. This does not mean that they have been mastered equally well by all pupils, for, on the contrary, all degrees of skill will be found among seventh-grade pupils in unselected groups. In the unit organization of the core curriculum, mathematics is considered as a medium for securing a better understanding of life adjustment problems through quantitative methods of thinking. This reduces the development of skills in fundamental operations to a secondary or concomitant aim.

Making the development of fundamental operations a secondary aim does not imply that these shall be left to incidental learning while other outcomes will have been taught as primary aims. Whether a learning is primary or secondary depends upon the technique of presentation, the point of view, or the approach. For example, the older approach was to teach fundamental operations, then seek applications of them. A newer and better approach is that of beginning with vital problems in the lives and experiences of the pupils, and developing the mathematical operations only as a means of finding a solution. But, as stated before, if the pupil lacks accuracy or skill, he will be led to a wrong conclusion or *his attention will be centered on the process rather than the end result.* For such pupils it is recommended that certain basic skills and operations be isolated and the pupil drilled until he has developed a degree of facility. He can then be led back to the original problem.

Functional Mathematics.[1]—Much emphasis is being placed on making mathematics courses more vital by stressing the functional concept. "Function as used here is not synonymous with duty, but refers to a method of thinking; that is, in seeing and understanding interrelationships of time and space, correspondence between elements of two classes, order, continuity, limits, variables, motion, position, and rhythm. The concept of function can be made the coordinating principle of all school mathematics, and through this approach all the legitimate aims of the subject may be achieved. *The functional concept supports a general mathematics with utilitarian and cultural values, for relationships cannot be taught if the subject is divided into separate compartments. Neither can it be achieved if it is abstracted from its social background.* In teaching the functional concept, the formal skills and disciplines of mathematics should be treated as means to an end, not as ends in themselves. Likewise, it should not be considered as a tool, but as a medium for understanding relationships.[1] Where there is no felt need, there is no sense of value.

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[1] H. R. Hamley, "Relational and Functional Thinking in Mathematics," Ninth Yearbook of the National Council of Teachers of Mathematics, pp. 1–111, 1934.

Teachers of Mathematics.—One of the first attributes of a well-qualified teacher is a knowledge of subject matter. One cannot teach what he does not know, but knowledge of subject matter alone is not sufficient. Teachers of mathematics should have a broad training involving all the subjects in which applications will be made. They should have the right attitude toward the place of mathematics in the secondary school. They should view it, not as a body of rules, formulas, tables, graphs, and principles to be learned, but as a language, a method of thinking, a medium through which social and economic institutions and our physical world can be better understood. They should have a knowledge of the functional concepts as a method of thinking, and have a storehouse of applications involving relationships. Their knowledge of social and economic institutions, science, music, and art should be sufficient to show the interrelationship and contributions mathematics has made in these fields and teachers should be able to apply mathematics to problems in them.

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CHAPTER X

CORE CURRICULUM: SPECIAL

The four so-called solid subjects, English, social studies, science, and mathematics, presented in the previous chapter, are no longer adequate to meet all the needs of youth in modern society, or to fulfill all the aims of secondary education. These subjects make contributions to all the aims, but not all of the aims are met completely by them. Additional growth and development is acquired through other activities as physical education, home, fine, and industrial arts which are organized as separate subjects, and new topics which have recently been accepted by the school, such as safety education, consumer education, and conservation of natural resources which should be integrated with the entire curriculum rather than organized as separate subjects. Likewise, free activities as clubs, assemblies, dramatics, and student government should be an integrated part of the entire curriculum.

HEALTH AND PHYSICAL EDUCATION

If modern education is aimed toward helping youth live in present-day society, mental development alone will not suffice, but every phase of youth must be considered. Although it has long been known, it has only recently been emphasized that a child is an integrated organism and that the physical and mental body are not two distinct and separate bodies, but two interdependent, coordinating entities. These develop concomitantly and what affects one, affects the other. It is true that one may be developed ahead of the other, for the development of physique and of attitudes are not closely related; but the functioning of all organs of the body is directly related to mental development, so that physical and mental training cannot proceed independent of each other.

Physical education is one way of meeting the health objective, and health is one objective, but not the only objective of physical education. In order that the health objective might not be neglected, health is now included with the term "physical education."

Historical Development.—Physical education is as old as secondary education itself and is one of the three great aspects of all education, namely, physical, mental, and moral training. The Greeks and Romans placed great stress on physical development, partly for greater efficiency in soldiers and partly as an end in itself, that is, for bodily grace and beauty. At no time have these three aims been stressed equally, and various groups and schools have stressed one more than the others. The present tendency is to stress all three.

During the nineteenth century and in the early twentieth century, physical education took the form of calisthenic exercises for the formal part of physical training and games during recess periods for the informal types. The latter had little or no supervision, pupils being permitted to run, play, and shout as they wished. The terms applied to activities of a physical nature were "physical education," then "physical culture," and later "physical training." In the present century the term "physical education" with the term "health" is employed. The earlier forms of gymnastics and calesthenic exercises were concentrated and shaped to fit the academic schemes of the day. Such activities were designed to correct physical disabilities, confer agility to limbs, and develop gracefulness and strength. They were considered so valuable and desirable they were "above the necessity of praise."[1]

The next phase was the development of highly organized sports for the benefit of a few pupils only. Interschool contests in football and basketball were the most popular games. So great was the emphasis placed upon developing winning teams that large sums of money were spent for coaches and equipment, to the neglect of the physical needs of the majority of the student body. Football fields with bleachers and gymnasiums for basketball were constructed, mainly for interschool rather than intramural sports. If the gymnasiums were used for other purposes, it was to have calisthenic exercises or gynmastic exercises with dumbbells, wooden horses, parallel bars, and the punching bag.

Present Status of Physical Education.—From 1928 to 1934 the number of pupils enrolled in physical education increased from 15 per cent to 50.6[2] per cent, and since then it has grown to include a large majority of the student body. This increase was the result of several factors:

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[1] James Frederick Rogers, Physical Education: 1839–1939, *School Life*, **25** (December, 1939), p. 69.

[2] Carl A. Jessen, Registrations in Fine Arts and Physical Education, *School Life*, **22** (October, 1937), pp. 55–56.

1. A realization that there were many disabilities which could be corrected. Surveys of the health and physical handicaps of high-school pupils revealed disabilities which could be corrected by proper remedial treatment and activities.[1]
2. A realization that the existing athletic program was reaching only a few pupils, and that they were usually selected on the basis of their physical fitness. Quite frequently the athletic contests injured rather than aided the health of the participants because of poor coaching, or no coaching, too strenuous exercise, or injuries sustained in contests.
3. A realization that a physical-education program was broader than health (important enough), but should include training in ethical character, worthy use of leisure, recreation, and mental hygiene, and to meet these objectives the program should include all youth enrolled in secondary schools.

An effect of these needs is shown by the fact that in 1939, 37 states required by law that facilities for, and instruction in, physical activities be furnished in all public schools, and in half of the states there is a director of such work in the State Department of Education.[2]

General Objectives of Health and Physical Education.—The general objectives of physical education, including health, as formulated by La Salle, are:[3]

1. The development of the organic system of the body so that physical vigor and resistance may be insured.
2. The development of skills basic to games, sports, and dance, which are in themselves pleasurable and satisfying to children and which are valuable in wholesome leisure-time activities.
3. The development of attitudes of appreciation toward physical activity.
4. The development of standards of conduct necessary for cooperative living.

The general objectives of health education as formulated by Smith and Coops, are:[4]

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[1] See T. D. Wood and H. G. Rowell, "Health Supervision and Medical Inspection of Schools," p. 260, W. B. Saunders Company, Philadelphia, 1934. Also A. Klien and L. C. Thomas, Posture and Physical Fitness, *U.S. Department of Labor, Children's Bureau, Bulletin*, 205, p. 25, Washington, D.C.

[2] Rogers, *loc. cit.*

[3] Dorothy La Salle, "Physical Education for the Classroom Teacher," p. 8, A. S. Barnes & Company, New York, 1937.

[4] Helen M. Smith and Helen L. Coops, "Physical and Health Education," p. 39, American Book Company, New York, 1938.

1. To provide school environment that will be conducive to the best mental and physical development of pupils.
2. To help pupils recognize their individual conditions and the means of so doing, as far as it is possible.
3. To stimulate pupils in habits and attitudes of vigorous living that will provide the basis for happy and integrated personalities.
4. To acquaint pupils with the sources of knowledge for the conservation and improvement of health and with the methods by which such knowledge may be used effectively.
5. To arouse the interest of pupils in the improvement of present and future health conditions in the home, the family, and community.

The objectives of physical education as formulated by Smith and Coops are:[1]

1. To promote optimal vigor among pupils by affording opportunity for wholesome physical activity.
2. To assist pupils in acquiring a wide variety of physical skills that may be practiced in their leisure time.
3. To help pupils develop the desire for continuing at suitable play activities after school hours.
4. To aid pupils in achieving emotional stability through their experiences with pupils in skillfully handled game situations.
5. To provide opportunities for the experiences of pupils in harmonious adjustments to others through activity involving leadership, followership, and cooperation.

General Principles in Organizing a Physical-education Program. Some general principles in organizing a physical-education program are:

1. All pupils of the school should participate in the physical-education program.
2. Activities of a low organization are to be preferred to those of high organization for the former have greater carry-over value into after school life.
3. In small schools, especially, intramural sports should be substituted for interschool sports.
4. Activities should be selected of such a nature that a minimum of equipment is required for participation.
5. Pupils should be classified in all competitive events as nearly as possible according to age, height, and weight.

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[1] *Ibid.*, pp. 39–40.

6. Sex segregation should be practiced only in such activities as gymnastics, stunts, and team sports. In other activities children should not be segregated.

Types of Activities.—At least three periods a week should be devoted to physical activities by every junior-high-school pupil, and at least two for every senior-high-school pupil. In order that all might participate, a wide variety of activities should be selected, mostly those of a low organization, that is, games and sports which may be played without a long period of coaching and in which teamwork is necessary but not so essential as in those of a high organization. Softball and volley ball are good examples of a low organization as contrasted with football, baseball, and basketball. A few other activities of a group nature are handball, touch football, soccer, folk dancing, and natural dancing. Activities of an individual nature or those involving two or four only are: tennis, boxing, wrestling, golf, track, archery, tumbling, gymnastics, swimming, badminton, croquet, horse shoes (quoits), shuffleboard, ping pong, and squash.

Smaller schools should not try to engage in interschool athletic contests unless they have sufficient equipment, players, and adequate coaching. Even in the larger schools there is a tendency to reduce the number of interschool activities and stress intramural ones.

Equipment.—Activities should also be selected with the necessary equipment in mind. Although desirable, well-equipped playgrounds and gymnasiums are not essential. The main aim is to get all to participate, and there are many activities which do not require elaborate equipment. One important essential is a playground for such games as softball, touch football, volley ball, and tennis. Especially in the Southern states, basketball is being played on outdoor courts. Many activities may be pursued in classrooms and halls. In classrooms equipped with tables and chairs, the tables may be utilized for ping pong, or the floor may be cleared for rhythmic exercises. Hallways may be used for quoits, washers, shuffleboard, and marbles.

Classification of Pupils.—Pupils should be classified as homogeneously as possible with respect to age, height, and weight, and physical condition. This will not only assure a greater amount of participation, but will be a factor in preventing overexertion or injury.

In structure, there is a true sex difference, which includes differences in weight, height, and certain bone structure around the pubic girdle and hips. These differences make it inadvisable that boys and girls participate together in certain gymnastics, stunts, and team sports; but does not preclude many types of mixed group activities. Boys and girls live together in the home and are together socially, and if the school is to teach them to live together better, segregation will not do it. Segregation is not advised in rhythmical activities, and in certain games of low organization in which sex differences are not a factor or in dual contests, as tennis and badminton.

Physical Education as a Part of the Recreational Program.—One of the needs of all youth is recreation, and one of the functions of secondary education is to provide suitable recreational activities both for in-school and out-of-school life. Physical activities provide a major part of this program, but not all of it.

Recreation means re-creation. Regardless of the type of school activities in which pupils engage, they will become fatigued, bored, and stultified. To overcome these, a change of activity is necessary. Phases of a recreational program should include all manner and variety of activities, such as free reading, browsing, social activities, clubs, rest periods, and the games and sports of a physical nature.

In order to be truly recreational, as much freedom as possible should be permitted in the selection of activities. Social grouping should be practiced. Competitive activities of a group nature with low organization but with rules to be enforced are more appealing to adolescents than such activities as marching, calisthenic exercises, or those of an individual nature, such as track. If activities are pursued to the point of extreme fatigue more harm than good will result. Every school should be equipped with cots where individual pupils may rest when the need arises.

Mental Hygiene through the Physical Education Program.—One of the chief objectives of physical education is that of moral and character education. Good sportsmanship can well be developed through group contests by promoting teamwork, fair play, and wholehearted activity. Pupils should be taught that the most important outcomes are derived by "playing the game" rather than by winning. Social grouping of both sexes in rhythmic activities, and competitive games in which the sexes are more equally matched, will help develop more healthy attitudes toward the opposite sexes by centering the attention of both on group activities.

Teaching Health through the Medium of Science and the Social Studies.—In schools organized on the subject bases, health should be taught through the medium of science and the social studies. Some of the specific topics of a health nature studied in science are:

1. The effect of narcotics on the body.
2. Balanced diets.
3. Securing pure food.
4. Sanitation and cleanliness of the body.
5. The importance of quarantine.
6. Vaccinations.
7. Common preventable diseases.
8. Pasteurized milk.
9. Patented medicines.
10. First aid.

Topics in the social studies pertaining to health deal primarily with social institutions for the promotion of health and sanitation. The emphasis in this study should be mainly on the development of attitudes, respects, and appreciations in order to secure cooperation and support in all civic enterprises pertaining to the betterment of community health. A few suggested topics are:

1. County and city health boards.
2. The hospital as a social institution.
3. Quarantine.
4. Socialized medicine.
5. Health inspection.
6. The drug store.
7. "Quack" doctors.
8. State sanatoriums and clinics.
9. Health heroes.
10. The state's responsibility in public health.
11. Health and accident insurance.
12. The Red Cross and other organizations.

It is quite easy to integrate the study of health in the social studies and science by constructing units about the topics suggested in the two subjects. The only difference between the two is in the point of view. In biological sciences, emphasis is placed on the basic facts, knowledge, and skills necessary for an individual to know or acquire to be healthy; in the social studies the same need is extended to the methods organized society employs to secure the same thing. It matters little whether one teacher presents both points of view, or two teachers do it; the factor of greatest importance is that both views be presented, and that they be presented either paralleling each other, in close succession, or unified.

HOME ARTS

Any secondary-school curriculum based either wholly or partly on the needs of pupils cannot ignore the need for training both boys and girls for home membership. The great majority of all girls, even though they enter industry or pursue a vocation directly after finishing school, eventually marry and become homemakers, and many are not adequately trained for such work. They are confronted with problems of cooking, sewing, marketing, budgeting, and child management, and have had no previous experience or instructions in solving such problems.

The majority of the family income is spent by the housewife, and the majority of family incomes are so low that care and judgment are required to spend them wisely. Advertisers are doing all they can to cause people to purchase more than they need and installment buying and charge accounts are great inducements to spending more than is earned.

Cooking and sewing were formerly taught in the home, but these arts have now been referred to the school in many cases. Interior decorating, home furnishings, exterior beautification, and child management are all essentials to homemaking. The large percentage of housewives do their own work, and even if help is employed it must be directed and supervised.

Many phases of home-economics courses are being offered for boys and such courses are becoming increasingly popular. Separate courses may be offered for boys and girls, or boys may attend the classes for girls. This practice should be encouraged.

Status of Home-arts Courses.—Sewing and needlework were taught in public schools as early as 1798, but home arts as such made little progress until 1872 when Massachusetts legalized sewing and other industrial education, which is the basis for their claim to leadership in industrial education and household arts.[1]

The federal government has done much to promote the teaching of household arts through legislation providing for extension work, the training of teachers, research, and aid in paying teachers' salaries in agriculture and home economics. The National Vocational Education Act of 1917 definitely recognized homemaking as a vocation for which definite instruction might be given in the public schools, and which, as a vocation, could receive federal aid. It was not considered the same as other vocational subjects with respect to methods, but it was considered advisable to prepare girls for homemaking for the majority would be housewives or employed in households.[1] The Smith-Hughes Act in 1917 and such subsequent acts as the George-Reed Act, 1929, the George-Ellzey Act, 1934, and the George-Deen Act, 1937, have all given national recognition to, and have promoted instruction in, agriculture and home economics. These acts have provided funds to the various states for the training of teachers and the paying of their salaries.[2]

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[1] Isabel Bevier, "Home Economics in Education," p. 141, J. B. Lippincott Company, Philadelphia, 1924.

The federally aided program does not reach all schools. In 1938 approximately 496,225 pupils were enrolled in federally aided classes in 5,357 schools.[3] Many schools which are not given federal aid offer courses in home economics. About two-thirds of all schools in the nation offer courses but only about one-fourth of the girls enrolled in home economics are in reimbursed classes.[4]

Aims of Home-arts Instruction.—There should be no distinction between the aims of the reimbursed vocational home-economics program and those not reimbursed. The total program of home-economics education has for its general aim "intelligent participation in family life."[5] There seems to be no unanimity of opinion, however, as to what the more specific objectives of home-arts courses are or as to what they should be as shown by a questionnaire study of the opinions of various home economists.[6]

Health is an important objective of a home-arts course. It is promoted through a knowledge of diet and clothing, and through the development of habits of making a more careful selection of food. Knowledge of the various types of harmful bacteria which may be carried in or on foods, methods of preserving foods so they will be safe, and skill in detecting contaminated and spoiled foods should be acquired in home-arts courses.

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[1] Adelaide S. Baylor and Florence Fallgatter, Development and Trends in Home Economics Education, in "Objectives and Problems of Vocational Education," pp. 120–212, ed. by Edwin A. Lee, McGraw-Hill Book Company, Inc., New York, 1938.

[2] *Ibid.*, p. 119.

[3] Education in the United States of America, *U.S. Office of Education Bulletin* 3, 1939, pp. 22–23.

[4] *Ibid.*, p. 29.

[5] Vocational Education in the United States, *School Life*, 24 (December, 1938), p. 76.

[6] John D. Russell and associates, "Vocational Education," Staff Study 8, prepared for the Advisory Committee on Education, Government Printing Office, Washington, D.C., 1938, p. 141.

Content of Core-curricular Courses in Home-arts.—Home-life experiences of youth are used to determine the content of home-art courses. One of the recent trends is to articulate home and school in homemaking education. The content of the courses is becoming broader and covers a wider range of experiences. Some typical activities are: problems pertaining to the selection, purchase, and preparation of foods; selection, care of, and proper manner of wearing clothes; the selection, purchasing, and care of home furnishings; home decorations; home and family budgeting practices; the care of children; and family relationships.

Home-arts courses may be integrated easily with other courses of the curriculum for they employ other fields as they relate to home life. The courses are already a series of units integrating phases of science, social studies, mathematics, and art. Some activities which may be included in correlating home arts with the total curriculum either by the coordinating or unifying methods are:

I. Food:
    1. Purchasing foods· economical methods; detecting superior and inferior qualities.
    2. Cooking, converting natural food into nutritious food, sanitation in securing and preparing, preserving foods (canning, salting, drying, refrigeration).
    3. Securing food from other countries· products secured from other countries, relationship with transportation, with trade agreements.
    4. Proper uses of food: balanced diet, stimulants and garnishes, overeating.

II. Shelter.
    1. Homes: furnishing, decorating (period furniture and furnishings).
    2. Clothing: Materials, patterns, colors, types of dyes and their permanence, types of weaves, sewing, repairing, remodeling, styles.

III. Mental and spiritual life: appreciation of paintings, sculpture, and architecture, in the home; creation in homes as art; art as utility.

FINE ARTS

One of the main factors which differentiates man from lower forms of animal life is his mental life, for man is the only animal that has a culture, that is, the pursuit of learning for pleasure, or purposes other than utility. The world could have been made with all the necessities of life for biological purposes without any music, flowers, painting, or poetry; but a world without these cultural elements would reduce man to the level of a lower animal. These phases of man's life are given the general title of art; but art has other definitions. It has been defined as emotion, creation, a way of living, and as utility; that is, that which best serves the purpose for which it is made is a work of art.

Art in Present-day Society.—The importance of art in modern life should not be underestimated. One comes in contact with art either as a producer or consumer in every walk of life in practically every vocation, in social, recreational, and spiritual life. Art is no longer a luxury to be enjoyed and appreciated by a few only; it is now a necessity for all. There are several forms of art service needed in modern life:[1]

1. *Art in Industry.*—Practically every article which is manufactured in America must be artistically designed if it is accepted on the market. Clothing, tapestries, rugs, draperies which formerly were designed abroad are now being produced in America, offering a variety of vocations. In household articles made for utility, modern design has taken the form of "streamlining," whether the article is a stove, refrigerator, iron, toaster, mechanical mixer, or dishwasher. The streamlining designs were borrowed from automobiles which are constantly changing in lines. Furniture styles, although influenced by old masters, call for much originality. Store-window decorating, billboard and magazine advertising, and interior decorating have become specialized fields.

The field of industrial arts is not confined wholly to the vocational, for it is practiced and enjoyed as a form of recreation. Arts and crafts in wood and metal work, turning, spinning cloth and metal, casting, modeling, turning, and carving in plastics have found their way into millions of homes.

2. *Fine Arts Service.*—The fine arts include painting, sculpture, and architecture. These have a place in life from the vocational aspects in the production of paintings and engravings for decorative and ornamental purposes, in designs of buildings, and also as fields for recreation and pleasure. Educationally, these phases call for the development of skill in production for those who have talent, and appreciation for all.

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[1] William G. Whitford, "An Introduction to Art Education," p. 25, D. Appleton-Century Company, Inc., New York, 1939.

3. *Social, Domestic, and Civil Service.*—The social, domestic, and and civil service of art includes these phases of ordinary life: dress, home furnishings, beautification of lawns and homes, the preparation and serving of food, and the beautification of the community. Creating a civic pride and a consciousness of the detracting effects of poorly kept lawns, streets, vacant lots, and old buildings as contrasted with what might be accomplished if properly planned and cared for, is an objective in this phase of art education.

4. *The Economic Service.*—The building of parks, and the beautification of forests, lakes, rivers, and highways is an important factor in preventing migrations and unrest, and is also an important factor in attracting tourists.

5. *Art as a Means of Self-expression.*—Various forms of art are means of self-expression. They are a means of communication, for art expresses what words fail to convey. Any form of art may be employed: photography, painting with oil or water colors, designing, etching, printing, cutting wood or linoleum blocks, or employing the crafts in leather, metal, cloth, or paper.

Past Status.—The first mention of art in public schools was by Franklin with reference to his academy, but little or nothing was done in the field until the first part of the nineteenth century. The instruction during this century was formal, and geometric. By 1907 it had expanded to various forms of art, including drawing, crafts, and an expansion of manual training, started about 1876 into industrial arts. From then on the fields have expanded to include crafts in wood and metal, etching, printing, carving, modeling, and work in plastics. Cooking and sewing, introduced at about the same time as industrial arts, has expanded to all forms of home arts including purchasing, preparing, preserving, and serving foods, the selection of goods and designs, and the construction of clothing and interior decorating and furnishing. From 1928 to 1934, drawing and art subjects remained about stationary both in the number of schools offering courses and in the number of pupils enrolled.[1]

Aims and Objectives of Art Education.—The objectives of art are for two types of courses: general art training for all pupils in secondary schools, and more specific art training for those displaying special talents. The general course is included in the core curriculum; the latter courses are electives.

The primary objective of art education according to Whitford is[2]

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[1] Jessen, *loc. cit.*

[2] Whitford, *op. cit.* p. 3.

To instill in the coming generation a sensitiveness to beauty, to enrich the lives of the masses, to demonstrate art as a practical force in the everyday life of all the people, and to promote better taste, standards of refinement, and capacity to enjoy all the possibilities of our American life.

The specific objectives may be divided into three fields: (1) the social objectives, (2) vocational objectives, and (3) the leisure-time objectives.

The specific objectives of the required courses in art in the junior high school are:[1]

I. Fruitful knowledge:
    1. "Functional information" in relation to the individual, society, and industry.
    2. Knowledge of the development of art and its importance in the life of the present.
    3. Knowledge of the art of other countries.
    4. Understanding of the elements and principles of art and their adaptation to everyday use.
    5. Knowledge of construction and industrial processes involving art training.
    6. Knowledge for prospective home builders, purchasers of homes, and home furnishing.
    7. Development of intelligent consumers.
    8. Knowledge of the vocational possibilities of art.

II. Attitudes, interests, and appreciations:
    1. Domestic and civic consciousness and pride.
    2. Interest in public buildings, sculpture, domestic buildings, and home furnishing.
    3. Appreciation and understanding of beauty in modern products of all kinds.
    4. Interest in museums, travel, and picture study.
    5. An appreciation and respect for the work of the artist and craftsman.

III. Mental techniques:
    1. The development of taste, discriminating judgment, ability to select, and choose wisely.
    2. Ability to analyze works of art and to understand the factor of beauty of objects of one's surroundings.
    3. The development of originality, initiative, imagination, and keen observation.
    4. The development of the ability to enjoy art.

IV. Right habits and skills in
    1. Constructive thinking and planning.

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[1] Adapted from Whitford, *op. cit.*, pp. 146–149.

2. Systematic organization.
3. Order and neatness.
4. Self-activity.
5. Group activity.
6. Profitable and enjoyable use of leisure time.

It should be noted that in these objectives the major emphasis is upon consumption of art, rather than on skill in production. None of the specific objectives call for the development of skill in drawing, painting, carving, modeling, etc., for these are incidental to the required general art course and are confined to the elective courses. In the general courses, pupils' talents are detected and those with ability are given basic instruction in skills which may be developed further.

Activities and Experiences.—A few suggested activities and experiences which should be included are:[1]

1. The story of art and its progress through the ages.
2. Influence of art of the past on present civilization.
3. Study of line, form, tone, color, texture.
4. Study of the architecture of public buildings and of private homes.
5. Art for the home: furnishings, (furniture, rugs, pictures, decorations); and exterior decoration.
6. Printing and advertising.
7. Personal apparel.

Integrating Art with the Core Curriculum.—Art may be unified with the core curriculum or coordinated with it either systematically or incidentally. The contributions of art to the core curriculum organized about man's basic needs which may be coordinated with social studies, science, mathematics, and English are:

I. Food:
    1. Preparing and serving food.
    2. Decorating a table.
    3. Art in plates, china, teapots, vases, and silverware.
    4. Arranging flowers for decoration.
    5. Art as utility.
II. Shelter:
    1. Architecture of homes and public buildings.
    2. Exterior decorations.
    3. Interior decorations.
    4. Clothes: patterns, colors, designs, texture.

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[1] Whitford, *loc. cit.*

III. Transportation and communication:
    1. Art and its relation to utility.
    2. Design in vehicles of transportation.
    3. Art in books, records, letters.

IV. Spiritual, mental, and cultural life:
    1. Art as recreation.
    2. Art as culture.
    3. Art motivated by religious motives.

MUSIC

Every pupil in the high school should experience some form of activity in music. There are two chief reasons for this requirement: first, the increased amount of music in life generally, and second the recognition by educators that music is an important factor in developing and guiding the emotional and the effective life of youth.[1]

The first implies the social value of music. Owing to such improved methods of reproducing music as radio, phonograph, and sound films, everyone, whether he resides in a rural or urban center, comes in contact with music—contacts he cannot escape, even if he wishes. These contacts will be made mostly by the individual as a consumer. Only a few will produce music for wide consumption. Those involving both consumption and production involve music in the home, and group singing at social, religious, and patriotic meetings. Taking part in group singing, playing in orchestras and bands, being a member of a chorus or choir are phases of production, while listening to music being thus produced involves consumption.

Music in the home has been popularized by the mass production of various types of musical instruments with prices so low that almost anyone can afford to purchase one.

The second phase, that is, music as a factor in developing emotional life, is one of the reasons for the inclusion of subjects having values other than the acquisition of knowledge. Development of aesthetic tastes and a satisfaction of aesthetic sense is an important outcome for it contributes to the enrichment of life, and has been included with man's basic needs. Some things cannot be expressed in words, but must be felt, sensed, or expressed through some form of art, as music. In this respect, the consumption of music is a process of hearing what a composer has to tell. Interpretation of music, as a language, must be taught. Likewise, for a producer, music is a form of self-expression. Music was devised to give man a means of communicating his feelings, to enrich life and add significance to the events of life. It still has these qualities.[1]

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[1] Peter W. Dykema, "Music for Public School Administrators," pp. 1–2, Teachers College, Columbia University, 1931.

Past Status of Music.—Until recently music was considered a pleasant, harmless, but unimportant diversion. If offered in school, it was considered an extracurricular activity, as glee club, orchestra, or band. In this manner it reached only a small part of the student body whose only school production of music was in group singing in assemblies. These features are not to be condemned, for they should be included in the present program. They did not go far enough. The past methods of formal instruction placed great emphasis upon the development of techniques, skills, and knowledge needed to produce music with little emphasis upon consumption. Those especially talented pupils were singled out and trained to the exclusion of the masses, and the training involved techniques more than appreciation. The reasons for this were the beliefs that those not gifted could not profit by instruction, and further that, if music appreciation were considered important, teachers did not know how to teach it.

Music showed little change in registrations over the period 1928 to 1934. About 27 per cent of pupils in grades 9 to 12 were enrolled in music courses including orchestra and band.[2] Since 1934, there has been an increased interest in music at least in certain localities, and in some states.

General Objectives in Music.—The general aim of music education, as formulated in the Report of the Music Committee in the Fourth Year Book of the Department of Superintendence, is:[3]

> The general or humanistic aim of music instruction is to contribute to the character of the individual and society an additional measure of the idealism, . . . and the psychic health dependent upon . . . contact with . . . the beautiful in music.

In its broadest sense, music contributes to the majority of the principles of education. As stated in the above aim, it contributes to health by influencing the emotions; to the worthy use of a leisure as a preoccupation; and to ethical character. For a few, music has vocational benefits.

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[1] Lilla Belle Pitts, "Music Integration in the Junior High School," p. 1, C. C. Birchard and Company, Boston, 1936.

[2] Jessen, *loc. cit.*

[3] "The Nation at Work on the Public School Curriculum," p. 300, Fourth Yearbook of the Department of Superintendence, National Education Association, Washington, D.C.,1926.

Dykema summarizes the contributions made by music under six heads: (1) physical, (2) emotional, (3) aesthetic, (4) social, (5) skill developing, and (6) intellectual.[1]

1. *Physical.*—Since music is an art that is heard, it develops the sense of hearing and makes one more sensitive and acute to sounds otherwise unobserved. Rhythm and tone are two elements of music which are employed in such activities as walking, dancing, talking, and in operating some machines as for example typewriters.

2. *Emotional.*—In music every tone embodies some emotional stirring as danger, security, fear, anxiety, pleasure, sadness, strength, and weakness. One of the differences between types of music is the type of emotional response evoked. The better music stirs finer emotions of sympathy, kindness, exaltation, and courage and dissipates lower feelings.

3. *Aesthetic and Spiritual.*—Although the aesthetic effects of music are closely related to the emotional, they differ in that the emotional responses result from association of the music to particular events of life, while the aesthetic are confined to the music itself.

4. *Social.*—Music, like mathematics, is a universal language. Through music, common bonds of friendship may be established between the home, school, state, and nation. Through group music, the common bond of team participation creates unity.

5. *Skill Developing.*—The production of music is the result of human skill and is always a source of pleasure, regardless of whether the skill is of a high or low order. Double satisfaction is secured when one combines the manipulation and skill with the product.

6. *Intellectual.*—Music is the most abstract of the arts. It ranges in type from the most simple, which any child can interpret, to such a degree of complexity that only a high order of intelligence can interpret it. The performance of music requires thinking, concentration, and rhythm in order to coordinate the various activities required in production.

Content of Music Courses.—There are three general fields into which all musical experiences may be divided, namely the general music field, the applied music field, and the field of artistry. These fields involve singing, listening, playing upon musical instruments, and technical training.

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[1] Dykema, *op. cit.*, pp. 3–8.

General music is a term used to apply to that field of music which covers a specific body of music knowledge and experience which should be a part of every pupils' experience. It includes the appreciation of music, some music theory, singing, and ear training. This is the only phase which should be included in the core curriculum. The others should be offered as electives.

Appreciation is the most important of the four topics included in general music, for it involves the development of musical taste, the interpretation of music, and how to listen to and enjoy music. It is developed by both participation and by listening to good music.

Music theory is included, for pupils should have some knowledge of the symbols used in music, the various ways in which tones are produced, and what constitutes harmony, rhythm, and pitch. Such an understanding will aid greatly in developing an appreciation of music.

Group singing should constitute the major portion of the productive music in the required courses, for it is the one activity in which everyone will engage by being a member of a group which is singing.

In the junior high school or the seventh, eighth, and ninth grades little technical training should be attempted in the required courses. The amount introduced in elective courses will depend entirely on the ability of the group. Ear training can be taught best by having pupils write music they hear; but if the pupils do not display enough ability to do this it should not be pursued to the point of stifling interest.

The specific objectives for the general music course are:

1. To give increased opportunity for the enjoyment of singing.
2. To raise the level of musical appreciation and melodic taste.
3. To develop a greater ability to understand music while listening to it.
4. To improve the pupils' knowledge of the symbols of music.
5. To orient the pupil into the field of music and its possibilities.
6. To acquaint the pupil with various types of musical instruments and the functional theories of tone production.

A few suggested activities designed to achieve these outcomes are: group singing of well-known songs used most frequently by social groups; singing of songs of other countries, and songs for various occasions; listening to vocal and instrumental music on records and radio; examination of various types of musical instruments, and instruction in reading music.

Equipment.—The amount of equipment needed is not great. A piano, radio, and phonograph should be standard equipment, and each pupil should be provided with some music book which is a collection of favorite songs. In small schools, where funds are limited, church hymnals have been borrowed for use in schoolwork. Although limited in the type of selections, they usually represent an excellent collection. The teacher should have many collections of suitable songs.

Suggested Time Allotment.—Music should be required in all three grades of the junior high school, and in the ninth grade of those schools organized on the 8-4 plan, which presupposes that music has been taught in the seventh and eighth grades of the elementary school. The time allotted to music should be about two periods a week. In addition, there should be one extra period a week for those who elect chorus, and one or two periods for those who elect band and orchestra.[1]

Correlating Music in the Core Curriculum.—General music instruction can easily be integrated with the total content of the core curriculum, incidentally or systematically. Due to the nature of the contribution made by music, it is perhaps more desirable that the integration be incidental rather than systematic. If the core curriculum is organized by subjects or unified, music should be correlated by coordination rather than by trying to unify or fuse it with the core content of units. For example, in studying the history of the United States, the songs and music developed at certain periods may be reviewed, but it is doubtful if the class period should be broken by the group singing these songs, or even listening to them produced on records. It is better if the music teacher, keeping herself informed of the units being studied in other courses, develops units in music about the same periods or develops units by themes which parallel the other units of the core curriculum.

Some of the types of music which may be sung, played, or listened to which are related to units of work in other fields are:

1. *Folk Songs.* A folk song is a rhythmical ballad originating among the common people which is illustrative of their life, and characteristic of their life, and characteristic of their racial or national spirit. Through the medium of this type of music, pupils can gain a better understanding of and an insight into the lives and character of people of other lands, and other ages and periods which could not be gained in any other manner. Since many of the folk songs are the music for folk dances, the work in music and physical activities may easily be correlated.

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[1] Dykema, *op. cit.*, pp. 76–77.

2. *Patriotic Songs.* Patriotic songs are those which are characterized or influenced by the love of country. Behind each of these songs there is a story of conflict and struggle which can be related to the character of the times in which it was written.

3. *Hymns and Religious Music.* The religion and spiritual life of a people can be studied through their religious music, as hymns, Negro spirituals, religious dances and ceremonies, tribal prayers, and the music of temple worship.

Units may be built about these types of music or may be built about the music of various peoples as the Negro, American Indian, and African tribes, or around the songs of other lands as England, Germany, France, Russia, Spain.

History can be studied through the biographies of the lives of outstanding composers. English and music may be related by studying the words, usually in poetic form, of hymns, folk songs, ballads, art songs, school songs, and patriotic songs. Many of our most excellent poems have been put to music to be sung. Certain phases of science are related to music, for musical tones are produced through applications of physical principles of vibrating strings, membranes, air columns, rods, disks, and vocal cords, and by percussions. Music is related to mathematics. It has even been defined as a series of mathematical ratios giving a pleasing effect and stirring the emotions. Time or rhythm in music is in terms of quantitative ratios; pitch is determined by the frequency of vibration of various vibrating media, and the laws governing the variations in pitch with concomitant variations in the tension of strings, and the length of vibrating strings and columns, are stated quantitatively, that is, in terms of formulas and ratios. Music leads one directly to the study of speech, sound waves, acoustics, sound pictures, and the principles of the radio and phonograph; or conversely, a study of these instruments involving sound leads one directly into a study of the physical properties of music.

INDUSTRIAL ARTS

Industrial arts are closely related to homemaking or home-arts courses, for in the junior high school the major aim of both is worthy home membership rather than vocational training, unless one considers homemaking a vocation. The two fields pursued as electives in the senior high school are more definitely vocational and the content becomes more specialized and technical.

Just as boys are pursuing courses in home economics, girls are gaining instruction in industrial arts for home rather than for vocational purposes. There are many crafts and skills in industrial education needed by both boys and girls, and girls have demonstrated their interest in this field. The course should include such activities as painting, varnishing, refinishing, glueing and repairing furniture and upholstery; the making of simple pieces of furniture; simple electric wiring, repairing of leaking faucets, and the like—activities and experiences needed by everyone in a home.

In a survey made of 303 city intermediate and junior high schools reported by Edgerton four major reasons were given for offering industrial activities and related studies, listed in order of frequency of reporting:[1]

1. Contributing to general experience, all-around development, and consumer knowledge.
2. Aiding in the intelligent selection of occupations without encouraging early choices.
3. Enriching the school experience of pupils through concrete situations.
4. Preparing for entrance into and advancement in suitable vocations.

The first of these was mentioned 118 times by the 303 schools; the last only 6 times, which indicates that vocational education as a specific aim is not the general practice, but that background for making wise choices later and opportunity for exploration are considered worthy objectives for industrial arts courses in the junior high school.

Past Status of Industrial Arts.—As was the case of fine arts and home economics, industrial education began receiving recognition in the latter half of the nineteenth century. The courses have had many names: "manual training," "sloyd," "shop crafts," and "general shop." Until recently the courses were extremely rigid, technical, and logical, consisting almost wholly of projects selected, planned, and logically arranged with specifications and drawings made by the teacher and assigned to the pupil who had no choice or initiative in selecting exercises. The courses were rather uniform including cabinetmaking, wood turning, patternmaking, foundry practice, forging, machine-shop work, and mechanical drawing. "These usually followed a logical arrangement of subject matter as well as an inflexible curriculum of prescribed projects. The teachers of these shop activities quite generally accepted prevailing attitude and practice of regimented education, and the so-called shopwork invariably stresses disciplinary experiences in the acquisition of tool skills."[1]

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[1] A. H. Edgerton, Industrial Arts Education, in "Objectives and Problems of Vocational Education," p. 300, ed. by Edwin A. Lee, McGraw-Hill Book Company, Inc., New York, 1937.

In 1934 there were 4,670 schools out of 17,632 which reported offering courses in industrial arts. This number was only slightly larger than in 1928. The number of pupils registered in these courses was about 6.3 per cent of the total enrollment.[2]

Objectives and Activities.—Recent trends are to distinguish definitely between the objectives of the courses offered in the junior high school for general educational purposes, exploration, home membership, and worthy use of leisure, and those offered in the senior high school for vocational purposes. The industrial-arts courses contribute to three general objectives with corresponding specific objectives and activities as given by Edgerton:[3]

1. To provide general industrial experiences of common value to all pupils of whom required.
2. To offer exploratory activities to aid in revealing interests, aptitudes, and vocational possibilities for all concerned.
3. To offer opportunity for beginning specialized preparation for entrance into chosen industrial pursuits.

General industrial experiences which should be common to all pupils from a consumer's or utilizer's aim are:

1. To develop "handy-man" abilities through repair and construction work for home, office, and shop.
2. To assist in better choice and use of industrial products and service.
3. To gain sympathetic attitudes toward other workers and their work.
4. To appreciate economic production with firsthand experiences with industrial methods.

Appropriate experiences designed to meet these outcomes are:

1. Miscellaneous repairs about the buildings involving a knowledge of carpentry, masonry, painting, and the selection of materials used in each activity.
2. Uses of electrical appliances including the repair of electrical devices.
3. Upkeep of plumbing fixtures, including a knowledge of water supply and sewage disposal.

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[1] *Ibid.*, p. 283.

[2] Carl A. Jessen, Registrations in Vocational Subjects, *School Life*, **23** (November, 1937), pp. 86–87.

[3] *Ibid.*, p. 288.

A sufficient number of activities should be provided for exploration so that all pupils will have an opportunity to become acquainted with their own abilities and determine what phases of industrial arts, if any, have any special interest for them. The specific objectives of this phase of industrial arts are:

1. To try out individual interests, inclinations, and abilities for industrial pursuits through typical experiences.
2. To make reliable studies of the conditions, demands, and opportunities in related occupations.
3. To provide for the individual needs of pupils who would not remain for academic education alone.
4. To help pupils more wisely to choose future courses in secondary and higher education of various occupations. This may be accomplished by use of the following type of study of each occupation:[1]
    a. Nature and importance of work.
    b. Advantages and disadvantages of various types of work.
    c. Qualifications and training needed in various vocations.
    d. Possibilities and requirements of occupations.

No new or additional activities need be provided for exploration and guidance, since those general industrial activities suggested for all pupils which have common value are sufficient for exploration in many types of work, as plumbing for gas and water, electricity, cabinetmaking, carpentry, and various other occupations involving the use of tools.

The objectives for giving preliminary industrial specialization are:

1. To assist in the final selection of a promising industrial career.
2. To extend the tryout activity to meet the preparatory vocational needs of pupils who must leave school with a minimum of preparation.
3. To provide supplementary training through a sequence of coordinated shopwork and related schoolwork in the fields of mathematics, science, home arts, and fine arts.

Correlating the Industrial Arts with the Core Curriculum.—As mentioned in the objectives of industrial arts, consumer education, safety education, and guidance are all contributions made in this course. It is one of the best places to teach certain phases of safety for it may be taught as the need arises with the use of tools and machines. In addition to these topics, industrial arts may be correlated with the fine arts and mathematics. Activities in industrial arts are usually those involving the construction of articles and furniture for the home, and they must be designed with artistic standards in mind. Some of the articles which will probably be made are stands, tables, stools, vases, bowls, picture frames, ash trays, and stands for flowers which will be constructed of wood, metal, or plastics. Designs for these may be used for projects in arts courses.

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[1] *Ibid.*, p. 290.

Pupils will not proceed far in industrial arts until they experience a need for arithmetic, especially common fractions. Accurate measurement is essential for good work, and practically all measurements of drills, bits, taps, dies, screws, bolts, and gages of thickness of metals involve fractions. Through cooperation, the industrial arts and mathematics teachers can increase the pupils' fundamental skills in arithmetic.

SAFETY EDUCATION

Training youth to safeguard their own lives is not a new idea either as an objective of society or of the school. Self-preservation has always been a major aim of individuals and a primary reason for cooperation of groups of individuals. In former times the majority of this training was conducted in the home and learned through experience by each individual. Evidence that the individual had learned to look after himself was found in his own survival.

Society as a group or the state has, as the needs arose, aided the individual in self-preservation. Speed laws were passed and partially enforced; road signs indicating curves, narrow roads, and crossings were erected; traffic signals were installed; streets were required to be cleaned and freed from ice; homes were required to be constructed in congested areas according to municipal or state safety regulations; natural gas was given an odor so it could be detected, and alcohol for external use has been denatured with a nauseating substance, as well as a bad tasting one, so that it would probably not be taken inwardly. But in spite of all these efforts of society, preventable accidents have increased to enormous proportions.

A few agencies have made beginnings in educating the public to avoid accidents. The bulletins and pamphlets of life insurance companies; safety talks, films, posters, and bulletins of state highway departments and public schools are samples of materials used in this work.

Evidence for the Need for Safety Education.—As evidence of the growing need for safety education, the following is a list of the major causes of fatal accidents for the year 1938:[1]

Cause	Number of Accidents
Motor vehicles	32,400
"Public" (railroads, drowning, firearms)	16,500
Occupational (excluding motor vehicle)	13,700
In the home	31,500

Over and above these fatal accidents, there were about 330,000 accidental injuries causing permanent disabilities, and 8,570,000 accidental injuries causing temporary disability. Some of the specific causes of accidents and their importance, in terms of percentage were:

Cause	Per Cent
Motor vehicle	34
Falls	28
Submerged in water	8
Burns	8
Railroad	5
Firearms	3
Poison gases	2
Other poisons	2
Other causes	10

The School's Responsibility for Safety Education.—The chief issues in safety education are not that there are accidents occurring, or whether they are preventable or not; but what is the school's responsibility for safety education? What phases of safety education can be taught in public schools? and how can it be taught?

In answering these questions, it must be recalled that educational aims are aims of society which have been selected by the school, are capable of being met by the school, are capable of being learned by the pupils, are not being adequately met by other agencies, and that they must represent the aims of society as a whole. The school can teach many facts, habits, skills, and attitudes which will be instrumental in reducing preventable accidents; pupils are capable of learning them; society as a whole is confronted with the problem as evidenced by the publicity the subject is receiving and by the fact that a number of states have made such instruction mandatory. No agency has adequately met the objective, but is it the school's responsibility? Quite definitely, part of it is, and in many courses, especially science, some phases of safety have been taught for years. If the school accepts the responsibility, from the standpoint of society the problem is solved, for as soon as people refer it to the schools they will cease to help solve the problem and complain about the poor results obtained by the school.[1]

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[1] These data were secured from "Safety Education," p. 29, Eighteenth Yearbook of the American Association of School Administrators, Washington, D.C., 1940.

It is doubtful if much safety education can be taught for the future, for times change so rapidly that unless one is able to adapt himself to such changes many specific skills valuable at one period will not function at another. Some facts and skills, however, will be of value later. Electricity will always be employed for various purposes, and the fact that a direct contact in the circuit of 110 volts may kill one or cause injury will not change. The great need is for training for the present, for if one learns to protect himself at the present time, many skills, habits, and facts will be valuable later, and he will live to learn how to protect himself in the future. The group of persons who have the least accidental death rates per 100,000 of population are those of school ages. It is before and after school ages where the greatest need lies. For 1938, the accidental death rates for various ages were:

Ages	Deaths per 100,000
Under 5 years of age	68 7
5 to 14 years of age	27.9
15 to 24 years of age	49 6
25–64 years of age	65.6
65 years and over	331 5

From these figures, it is evident that the adult population and small children are in greatest need of the training. This is particularly true of adults who must take care of themselves and also teach and care for the preschool children. Despite the fact that children normally in school show the lowest rate, there is still room for improvement here with a view to further reduction and a view toward building lasting attitudes toward safety.

Safety education involves everyone, at all ages. It is a continuous program and to be adequately treated should involve the cooperative efforts of all agencies engaged in the work. State highway departments have already shown their willingness in cooperating with the schools, in giving talks, showing films, and in sponsoring and training boys' patrols for watching dangerous intersections while children are crossing the streets.

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[1] *Ibid.*, p. 43.

The Extent of Safety Instruction in City School Systems.—From a survey made by the Research Division of the National Education Association in 1937[1] concerning the present status of safety education through schools, of 14,524 replies received from classroom teachers, it was found that there is much more instruction in safety given in the elementary school than in the secondary school, and that the junior high school exceeds the senior high school (Table 44). The returns revealed that some form of instruction is being given in 97.4 per cent of all schools, but the method of offering it varies. In the high school, instruction is given mostly by some, rather than by all the teachers, while in the elementary school it is offered by all the teachers more than by delegating the responsibility to a few. This situation is natural, for in the elementary school as a usual practice one teacher has charge of the entire work of a given grade, while in the high school teachers are assigned their work by subjects.

TABLE 44

EXTENT TO WHICH SAFETY INSTRUCTION IS OFFERED AS REPORTED BY CITY SCHOOL TEACHERS*

Extent to which instruction is offered	Per cent of teachers reporting for		
	Elementary school	Junior high school	Senior high school
By all teachers	82 8	41.6	20 5
By some teachers	16 5	55.9	73 9
By none of the teachers	0 7	2 5	5 6
Total per cent	100 0	100 0	100.0
Number of teachers reporting	6,939	2,786	4,573

* Safety Education through Instruction, *Research Bulletin of the National Education Association,* **16** (November, 1938), p. 245.

The Scope of Safety Education.—Safety education is not limited to safety in driving an automobile although this is an important phase of the program. It is just as much concerned with the pedestrian as the driver. The field includes safety and self-preservation in any and all activities of life: in leisure-time pursuits, in school, in the home, on the highway, and in vocational activities. There is no place where there are no possibilities for an accident if a human being is present. Therefore the program should cover safety in all activities.

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[1] Safety Education through Instruction, *Research Bulletin of the National Education Association,* **16** (November, 1938), pp. 239–298.

The Objectives of Safety Education.—The objective of safety education formulated at the White House Conference on child health and protection is:

> The development of such safety habits, safety skills, and safety attitudes as will cause a decrease in the number of accidental deaths and injuries to children, produce safer adults for the future, and give to each individual freedom from fears and conditions that might restrict his enjoyment of life.[1]

The general objectives of safety education as stated in the Eighteenth Yearbook of the American Association of School Administrators are:[2]

1. To prevent accidents and save lives:
    a. By developing attitudes necessary thereto.
    b. By imparting helpful knowledge, and
    c. By developing habits and skills which help in safeguarding oneself and others.
2. To fuse these elements into a discipline important in itself as a means to effective citizenship.

Some of the more specific objectives of safety education are:[3]

1. To teach pupils to take an active interest in the protection of the life, health, and property of the community in which they live.
2. To bring about an appreciation of the responsibility of the individual for the safety of the group and the effect of individual conduct on the safety of others.
3. To develop cooperation in the solution of such safety problems as traffic hazards, safe driving, and fire prevention.
4. To create a respect for, and an understanding of safety rules, regulations, laws, and practices.
5. To understand the common causes of accidents and how accidents may be prevented.
6. To develop knowledges and skills applicable to all traffic situations involving pedestrian responsibilities, bicycle riding, and automobile riding and driving.
7. To develop appreciations of occupational hazards, and skills in minimizing the hazards.

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[1] Florence Fox, Safety Education, *U.S. Office of Education Bulletin* 8, 1932, p. 29.

[2] Fox, *op. cit.*, p. 47.

[3] *Ibid.*, p. 104.

8. To develop knowledges and skills which may be applied to such emergency health problems as wounds, suffocation, poisoning, fractures, dislocations, and burns.

The school will have little difficulty in giving instruction in factual material, and, although they are difficult to teach, it has the facilities and means of developing attitudes and appreciations. It is very difficult to teach habits and skills unless pupils are placed in actual situations involving them. This may be done in many phases in courses in science, home and industrial arts, and physical education, but is more difficult in such skills as driving a car. This skill must usually be left to other agencies. Some schools are giving instruction to those pupils who own cars, and others use a school-owned car to instruct those who will later operate automobiles. These courses are usually separate ones in the senior high school.

Organization for Safety Instruction.—The types of safety education programs which have been developed in secondary schools may be classified under four headings:

1. Correlating and integrating safety with many different subjects and activities.
2. Teaching safety as a separate and distinct unit included in other subjects.
3. Organizing safety education as a separate subject.
4. Centering a safety-education program around pupil organizations and special projects of various types.[1]

Of these various plans which are not mutually exclusive, units integrated with other subjects and activities are to be preferred in the elementary school and junior high school, while separate courses in safety are gaining in favor in the senior high school.[2] This plan and the teaching also of safety in units in other subjects are the most popular as shown by the survey of the National Education Association. Safety education,[3] with safety offered as a separate course, ranked third in frequency of practice.

The only disadvantage which might result in integrating the course is that the diffusion might result in an underemphasis of certain vital points. This fault can be obviated by careful planning.

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[1] Eighteenth Yearbook of the American Association of School Administrators, *op. cit.*, p. 105.

[2] *Ibid.*, pp. 65, 108.

[3] *Research Bulletin of the National Education Association*, 16 (November, 1938) p. 246.

There are several reasons why safety education should not be offered as a separate course in the early high-school grades. No single subject covers the field and to organize one would be isolating phases of various subjects into an independent unity separated from its more natural setting and context. The subjects of science, physical education, industrial arts, the social studies, and mathematics all make contributions. If phases of these were placed in one course, all pupils would not come in contact with them unless it were required, and already the required content is well filled. There would also be the factor of finding a teacher qualified to teach safety in all of its aspects. In various subjects units may be built on safety education, or in a unified curriculum a single unit may be constructed in which various subjects make contributions; but, over and above these units, teachers should never miss opportunities to present safety implications. Most safety should be taught as the need arises, as teaching safety with tools and machines while working with them in industrial arts; safety about cooking ranges while actually engaged in cooking; and about poisons while dealing with chemicals. Furthermore, to organize the materials of safety education into one course or one unit would tend to place the total responsibility for such instruction on one teacher. Teaching safety is like teaching democracy. It must be lived and practiced, and is the work of the entire school.

If a unit in safety is constructed and taught, there will be a feeling that the duty of the school is ended with the completion of the unit, and no more will be done until next year with another class. Safety is a continuous problem, ever present, never solved. It is a way of living, not a body of facts, although facts are important in guiding conduct. Safety education must be a program like the health program, or program in moral instruction which involves all the resources of the school and all organizations of the community.

Methods of Teaching Safety Education.—The National Education Association survey of safety education reported 14 methods employed most frequently in teaching safety. The most frequently employed was the bulletin-board display of posters and pictures on safety, followed by classroom forums and general discussions, lectures by nonschool people, motion pictures, pupil monitors, or patrols for corridors and stairway; schoolboy patrols for busy street intersections, dramatization, leisure reading, laboratory lessons, and driving instructions by regular teachers. The latter was practiced in 5.7 per cent of elementary schools, 9.6 per cent of junior high schools and 16.2 per cent of senior high schools.[1] This listing does not represent the relative values of these techniques, but the frequency of practice only. The two judged of highest value in the junior high school were safety discussions in various classes directly related to the use of equipment and materials, and motion pictures on safety.[2]

Contributions of Various Subjects to Safety Education.—Safety education in various courses should not be wholly incidental but a planned and primary part of each subject. The specific places and phases of various courses involving safety are:

1. *Physical Education.*—Instruction can be given in safety in swimming, safeguarding pupils in the gymnasium, and in sports and contests, and proper first-aid treatment of sprains, bruises, cuts, and fractures.
2. *Sciences.*—Instruction in science can be given with regard to safety under the following conditions and places: fires, poison gases, poisons taken inwardly, poisons to the skin, electric shocks and burns, safety in traffic, in driving, and walking in traffic, explosives, fireworks, inflammable cleaning fluids, firearms, and electric storms, the effect of narcotics on ability to drive, swimming, treatments for bites from insects, snakes, and other animals.
3. *Household Arts.*—Safety about the home, safety in cooking, dry cleaning, and child care.
4. *Industrial Arts.*—Safety in the use of tools, machines, electricity.
5. *Social Studies.*—How society has cooperated in safety: forest fires, fires in homes, fire departments, traffic policemen, state highway patrols, life guards at swimming pools and lakes, building standards, ordinances and laws pertaining to safety, accident insurance.
6. *Mathematics.*—Problems and exercises in mathematics can be built about: accidents by various causes, economic losses of accidents, graphical representation of accident causes, the cost of accident insurance, computing probabilities of accidents, the stopping distance for various speeds, reaction times of drivers, and relation between speed and kinetic energy.

If the instruction in safety is coordinated following the scheme of coordination about units based on fundamental needs, the subject matter would be grouped as follows:

1. Securing food and raw materials: accidents and safety in mines, forests, farms, mills, and factories.
2. Shelter: accidents and safety in the home and safeguards in constructing and maintaining homes.

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[1] *Ibid.*, p. 249.

[2] *Ibid.*, p. 254.

3. Transportation: safety on the highway, on water, in the air, on trains, walking, or horseback riding.
4. Communication: vocational accidents of groups engaged in communication services.
5. Cooperation: how society has cooperated for safety in public services, legislation, police, fire departments, insurance.
6. Passing on our heritage:
7. Spiritual, mental, and cultural life: safety in recreation, sports, hobbies, and social activities, camping, hiking.

CONSUMER EDUCATION

Democratizing secondary education has brought a shift in emphasis from that of the producer to that of the consumer. This is evidenced especially in the fields of art and music, and to some extent in other subjects. Due to mass production, the wide distribution of goods, and the keen economic competition, attention has been turned to the training of economic intelligence. This is one of the primary aims of the home-arts courses for a majority of family budgets are spent by housewives. Consumer education should be extended to all pupils of the school for other subjects such as science, social studies, mathematics, and industrial arts make contributions. As in safety education, there should be no separate course organized for this work, but economic intelligence should be developed through all courses which make contributions.

Need for Consumer Education.—The need for such training is evidenced by the large amount of unwise buying by those who have had little or no training in making purchases. High-pressure advertising is designed to cause consumers to buy what they do not need, to buy more than they need, and to change models more often than necessary. The techniques employed by advertising agencies are: an appeal to pride, to beauty, charm, and popularity; the creation of fears of insecurity, death, loss of position; advantage is taken of ignorance; pseudo-scientific methods are employed which makes detection of the false statements difficult; and a constant attempt to make consumers dissatisfied with their present articles by changing models frequently. Universal use is made of installment purchases carrying high interest rates. Being able to pay a small sum when the purchase is made and to pay the balance later is a strong temptation for consumers to make purchases they cannot afford.

Competition has resulted in mass production in order to lower the cost, a lowered quality of goods, and a market flooded with imitations. Trade names which once assured one of a high quality no longer offer any guarantee of quality; descriptive literature is often misleading. Advertisements overestimate, make use of a false science, make statements which cannot be verified, and salesmen cannot always be relied upon to give a true representation of goods. The consumer is certainly in a dilemma when he attempts to get his money's worth, or to purchase what he wishes to purchase.

Several agencies have undertaken the task of developing economic intelligence. Among these are such groups as the Consumers' Counsel of the Agriculture Adjustment Administration, the Consumers' Advisory Board of the National Recovery Administration which are government agencies, and several private ones as Consumers Research, Consumers Union, Consumers' Guide, and Good Housekeeping Institute. Likewise there are several books devoted to the subject.[1] These have all been of service and have reached many people, but the best agency is the school. Through the medium of various subjects many facts can be learned, habits and skills acquired, and attitudes developed which will be of both present and future need in purchasing and consuming.

Objectives of Consumer Education.—The general objective of consumer education is to develop an economic intelligence so that pupils may make purchases, consume various commodities more efficiently, and apportion the expenditure of their incomes for the best interests of themselves and others. Becker states the general objectives of consumer education in five outcomes to be achieved:[2]

1. To develop an awareness of consumer problems.
2. To develop a scientific and critical attitude toward the various sales appeals.
3. To become familiar with agencies and sources of information helpful to the consumer.
4. To provide experiences to improve the ability of students to make rational choices.
5. To make students realize that consumers must organize.

Some specific objectives of consumer education are:

I. Factual information:
    1. Knowledge of the methods employed by advertisers to stimulate buying.

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[1] For a bibliography on consumer education see Margaret G. Reid, "Consumers and the Market," pp. 554–569, F. S. Crofts & Co., New York, 1938.

[2] Harry A. Becker, Methods and Pitfalls in Consumer Education, *The Clearing House*, 14 (October, 1939), p. 75.

2. Knowledge of the rates of interest charged on purchases made on the delayed payment plan.
3. Knowledge of various types of cloth, wood, metal, dyes, etc. and their uses in different articles as to wearing ability, durability, and permanence.
4. Knowledge of various consumer aids and how to use them.

II. Skills, habits, and abilities:
  1. Ability to operate gas, electric, oil, and coal furnaces, ranges, and appliances as economically and efficiently as possible.
  2. Ability to detect the difference between genuine articles and substitutes.
  3. Ability to detect flaws and defects in commodities.
  4. Habits of inspecting articles and applying any known skills before purchasing.
  5. Ability to judge the value of articles and determine quality.
  6. Ability and habits of critically analyzing advertisements and sales talks.

III. Attitudes:
  1. Development of a skeptical attitude toward all highly advertised articles.
  2. Development of a sales resistance.

Integration of Consumer Education in the Core Curriculum.—Perhaps the courses in home arts make the greatest contribution in intelligent buying, for in these courses there is an opportunity to gain firsthand information in purchasing groceries, meat, canned goods, clothes, and furnishings. Modern home-arts laboratories are equipped with electric, gas, oil, and wood ranges on which pupils not only learn to prepare food but to economically, efficiently, and safely consume the fuels used in them.

In science, many of these same skills and habits are taught, and in addition, pupils may be taught to identify many articles or be able to detect the difference between genuine articles and substitutes; to have a critical attitude toward exaggerated claims for patented medicines and other commodities; to detect the false statements in advertisements; to purchase fuels with efficiency; and to develop, if possible, sales resistance. Many science classes analyze the contents of mouthwashes, tooth pastes, and shaving lotions to determine the quality and quantity of the advertised contents.

The social-studies courses may include a study of organized attempts to aid the consumer such as interstate commerce laws, inspection by the government, consumer aids, and of advertising agencies and their methods.

In mathematics, many problems may be constructed about installment buying, the amounts saved by large rather than small purchases, the computation of the volumes of different sizes of cans and the comparative costs of goods in each size.

Pupils should be taught to identify the most common types of woods and their merits in furniture and home building, and the ability to determine the quality of tools, paints, varnishes, roofing materials, and electrical appliances.

CONSERVATION OF NATURAL RESOURCES

Rugged individualism has been responsible for the waste and exploitation of natural resources. Social attitudes are coming to the rescue. The depletion of soil, the cutting of forests, the mining of minerals has proceeded so rapidly that society is becoming conscious of the fact that the next generation should be considered and that the present one is depleting resources faster than they can be replaced. The chief outcome to be achieved from a study of conservation in our schools is the development of social rather than individual attitudes with respect to natural resources. This is taught through the medium of factual materials concerning our natural wealth, its exploitation, and proper methods of conserving it. This is a unit designed mostly for the good of society and has more future than immediate value.

Conservation should be taught through social studies and natural sciences rather than through a separate course. The two subjects attack the problem from two points of view. The natural sciences stress the physical occurrence and formation of natural resources, and the agencies of their destruction and protection. The social studies consider the development of social agencies and social attitudes for their protection. The particular resources considered are soil and erosion; forests and their destruction by man, insects, and fire; such minerals as coal, oil, and gas; wild game and game preserves; floods and flood control, or the storing of water for use in arid lands.

CORRELATING FREE ACTIVITIES

Regardless of the type of organization of the curriculum, whether it is along conventional lines or progressive lines, free activities should be correlated with the regular curriculum. Formerly all nonacademic activities were considered extra, but all activities are now considered as a legitimate and essential part of the curriculum.

Activities are of six types: (1) clubs, (2) student publications, (3) student participation in school government, (4) dramatics and debate, (5) athletics, and (6) assemblies.

Purposes of Activities.—The purposes served by the activities program are to give pupils an opportunity to engage in additional activities in which they have become interested in academic work, and to explore further various avenues of vocational or avocational pursuits. Activities are a part of school life and should contribute to the regular aims and functions of secondary education as do all other activities, courses, and experiences.

The point of view taken of activities should be that of enriching the academic phases of the curriculum. Activities enrich by furnishing needed experiences which transform facts into knowledge, by gaining actual rather than vicarious experiences, by furnishing an outlet for self-expression, group participation, and freedom to engage in activities not required of teachers. If pupils participate in school government they have an opportunity to live in and practice democracy, which is the only way it can be taught. Finally, activities enrich all school life and help pupils become adjusted, happy, and contented, which results in motivating all schoolwork.

Typical Activities Which Enrich Various Subjects.—Activities may be grouped according to the subject which they enrich or from which they emanate.

English.—The activities which enrich English courses may be divided into clubs, dramatics, debate, student publications, and assemblies. Through these types of activities the work is vitalized. They help pupils transfer the work of one field to that of another, and illustrate generalizations learned in formal instruction.

The clubs may be organized about special phases of English, such as a poetry club, a writer's club, a dramatic club, storytelling, book reviewing, debating, or a study of authors.

Publications offer an opportunity for pupils to publish what they have written; to collect and edit current school happenings, and express their opinions on school policies, activities, and school life in general.

Assemblies offer another opportunity for pupils to engage in public speaking of various types, to present dramatic reproductions, to debate, give book reviews, and deliver an organized presentation of some topic.

Through these activities the work of English can be correlated with other subjects. The best debate questions are those from the social studies; journalism requires the study of journalistic style which necessitates the reading of editorials and current papers; and parliamentary procedures may be learned for use in formal meetings.

The Social Studies.—The activities related to the social studies are debates, participation in student government, and open forums.

Debating, which is a form of public speaking, brings the social studies and English fields together: the one furnishes content, the other the art of public speaking.

Student participation in school government, usually practiced through a student senate, is a form of democracy in practice. Representatives from each class or grade, taken collectively, compose the student senate. Their activities are cooperative and policy-forming rather than administrative.

Forums are becoming popular as a place in which to discuss current social, economic, national, and international problems. In the open forum, if conducted properly, the feeling of restraint which often pervades the regular class periods is removed, and pupils feel free to express themselves on current problems. The value of pupil discussions is no greater than their knowledge of the topics being discussed. Knowledge should be gained first in other subjects. Since most current topics and problems transcend subject divisions, the school is again provided with a scheme for integrating subject matter. If teachers cooperate in planning the problems for the forums, they can be made to parallel the subject matter being pursued in various courses.

Science.—Since studies and investigations have shown that demonstration is about as effective as individual laboratory work, it has, to a great extent, been replaced by teacher demonstrations. This results in a saving in time and equipment, but does not give pupils a chance to acquire any skills in the manipulation of scientific apparatus, nor does the method give the pupils a chance to "feel" the materials which is essential to gaining knowledge. Activities emerging from science give this opportunity in the form of science clubs. These may be divided into such separate units as hobbies, electricity, photography, microscopy, bird study, astronomy, etc.

Other Subjects.—Music, art, athletics, home and industrial arts are all forms of activities themselves; that is, they are not ideational subjects and are conducted by the laboratory type of method. This reduces the necessity of having to enrich the course by additional activities, although additional ones are not precluded. Art and music clubs may be organized, and easily correlated with other subjects. Photography is a form of art, involves mathematics and science, and a full knowledge of musical instruments requires a knowledge of physics.

Home arts and agriculture, being related, may be enriched by garden, flower, canning, sewing, and interior-decorating clubs.

Athletics is a part of the physical-education program, and should be sponsored and supervised by the physical-education teacher.

Integrating and Culminating Activities.—There are several types of activities which serve to integrate the work of the entire school, such as programs presented to the public. Typical of these are "patron's day" programs, operettas, and commencements. These activities should be of such a nature that the work of the entire school is involved. The music department can provide for singing, and music rendered by orchestra or band. The English department should handle such phases as dramatics, talks, debates, or readings, as well as the publicity through school papers and the local press. The arts department may make contributions through stage settings, decorations, and costumes, while the science and industrial-arts departments contribute to stage properties and lighting.

School Contests.—It is not necessary to motivate activities through interschool contests. These have been carried to such extremes that the general training of all has been neglected for the specific training of a few in order to win honors from another school.

The Secondary-school Fraternity.—Out-of-school activities which are associated with but not supervised by the school, such as the high-school fraternity, are not desirable. They can best be discouraged by an enriched activities program rather than by an attempt to prohibit them directly.

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CHAPTER XI

PROVIDING FOR INDIVIDUAL DIFFERENCES THROUGH ELECTIVES: ACADEMIC

More has been said than done about individual variations of high-school pupils. Ever since the high-school population started expanding educators have studied the extent of the variations and psychologists the causes. It is only recently that the third aspect has been emphasized, *i.e.*, what can the school and teachers do about them? The placing of emphasis upon the first two aspects has been one of the retarding factors in making adequate provision for individual differences while the rapid growth of the school population accentuated the problem of adapting a curriculum to the varying needs, abilities, and interests of all pupils. Of necessity, group instruction must be employed in public schools, and although individual differences do not preclude group instruction, they do require that techniques be suited to a heterogeneous rather than a homogeneous group such as once attended the secondary schools. Phases of the public-school system causing individual personalities to be submerged have been a single curriculum with few or no electives, traditional courses, and the textbook method of instruction with little or no use of collateral material.

Of the three main divisions of a study of individual differences—the causes, the extent of, and provision for—the first two should receive less treatment than the latter. Whatever the causes are, many have operated before the pupils reach the secondary school, and the fact that they exist is well known. The extent of the differences becomes obvious to anyone dealing with school pupils, but what to do about them is a most perplexing problem.

THE CAUSES OF INDIVIDUAL DIFFERENCES

The major causes of individual differences have been grouped under the following classes:—

1. Heredity, sometimes referred to as nature, or ancestry.
2. Environment or nurture.
3. Race and nationality.

4. Sex.
5. Age and maturation.
6. Endocrine glands.

Differences Due to Heredity and Environment.—Often in the age-old argument about the relative effectiveness of heredity and environment as causes of individual variations, all traits were considered as a whole rather than as specific separate factors. It was not uncommon also to find extremists, or those who argued that one or the other was completely responsible for individual traits. A more modern view of the subject is that both are responsible for differences, and that, while heredity might be more of a cause of one trait, environment may have a greater influence in producing variations in others. The characteristics or traits with which the educative process is concerned are intelligence or native capacity, either of a general or specific nature, special aptitudes, moral traits, personality, interests, and emotional characteristics.

General Intelligence.—Intelligence has been defined in many terms, as ability to make adaptations to environment, ability to make adaptations to new and novel situations, and for school pupils, the ability to learn. Educators are concerned with the causes of native intellectual endowment in order to determine the extent to which mental traits are subject to training, and the stability of the intelligence quotient. Many methods have been employed in an effort to determine the relative effectiveness of nature and nurture on intelligence. Some of these attacks are made by a comparison of individuals with their ancestors, or family resemblances. A second line of attack studies mentality and its relation to early opportunity. It uses such factors as resemblances of foster children to each other, to their foster parents, and to their real parents; the relationship of mentality to occupational groups, repeated testing of selected and unselected groups, the effect of training on individual differences, and a comparison of identical and nonidentical twins reared together for a part of their lives and reared apart for a period. Investigations employing these techniques are still in progress, and so far only tentative conclusions have been drawn. The following are some tentative conclusions based on available evidence:

1. Both heredity and environment influence individual traits. No definite ratio expressing the relative influence of heredity and environment has been established and perhaps none ever will be for the two factors are

inseparable. Environment makes the measurement of hereditary traits possible. A ratio was suggested by Newman, Freeman, and Holzinger attributing about 25 to 30 per cent of the variance of fraternal twins reared together to the influence of environment, and the rest to heredity. This was tentative only and based on several assumptions.[1]

2. Environment is more effective in producing differences in some traits than in others. It affects physical traits least, intelligence more, educational achievement still more, and personality and temperament the most.[2]

3. Mental growth, as measured by intelligence-test scores converted into mental ages, is strikingly regular and orderly, although there are individual differences in rate and character of the growth.[3] (See Chap. VIII for mental growth curves.)

4. With unselected groups of school children, the rate of mental growth as measured by the I.Q. is relatively constant; that is, there is a tendency for individuals to maintain the same relative position with respect to the group with which they were measured. Repeated testings, whether a few days or a few years apart, give coefficients of correlation averaging from .80 to .90 while one-half of the cases tested varied only five or six points from their original scores.[4] Evidence is contradictory with respect to whether I.Q.'s increase or decrease with age. Burks, Jensen, and Terman in a study of selected superior children report that they showed a general loss of I.Q. when tests were given six years apart,[5] while Cattell found a definite tendency for pupils of high intelligence to gain as they become older.[6] Superior children show more variations than average children, but they maintain their high relative positions as they increase in age.

Recent studies have shown that former statements like the following concerning the I.Q. are no longer accepted without question:

1. The I.Q. is constant in narrow margins.
2. One can predict at the age of 6 what I.Q. one will have at 16.
3. Heredity is a force dwarfing all others in mental ability.[7]

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[1] H. H. Newman, Frank N. Freeman, Karl J. Holzinger, "Twins, A Study of Heredity and Environment," p. 354, University of Chicago Press, Chicago, 1937.

[2] *Ibid.*, p. 353.

[3] Frank N. Freeman, "Individual Differences," p 251, Henry Holt and Company, Inc., New York, 1934.

[4] Claude L. Nemzek, The Constancy of the I.Q , *Psychological Bulletin*, **30** (February, 1933), pp. 143–168.

[5] B. S. Burks, D. W. Jensen, L. M. Terman, "Genetic Studies of Genius," Vol. III, Chap. III, Stanford University Press, Stanford University, Calif., 1930.

[6] Psyche Cattell, Constant Changes in the Stanford-Binet I.Q., *Journal of Educational Psychology*, **22** (October, 1931), pp. 544–550.

[7] Editorial Comment, *Educational Method*, **19** (November, 1939), pp. 118–119.

These statements have been challenged by studies of children placed in foster homes at an early age and of children whose environments have been changed radically. In such cases the relationship between the children in foster homes and their true parents was negligible. Those whose environments were changed showed changes in the I.Q. From studies conducted at the University of Iowa and elsewhere, the following conclusions have been made:

1. Environmental factors can operate to produce changes which for ordinary purposes may represent a shift from one extreme to another of the present distribution of intelligence among children.[1]
2. If heredity fixes limits through which environment can be effective, these limits are broad indeed.
3. Mental development is related to the type of home environment. Inferior homes seem to suppress the I.Q. and superior homes raise it.[1]
4. Low intelligence in many cases is attributable to a poverty of experience.[2]
5. The I.Q. in its modified concept ceases to be a determiner of potentialities, and becomes just another useful datum about a pupil.[2]

It must be recalled that these conclusions are also tentative and relate to children under high-school ages, and most of them to preschool children. Intelligence tests before the ages of six have large errors of measurement and also large errors of estimate for future predictions. Furthermore, large changes in the I.Q. do not occur unless there are pronounced and continuous changes in the home environment.[3] Unless marked changes occur in school comparable changes in the I.Q. should not be expected, and since the I.Q. becomes more stable with maturity, such changes are not likely to occur in high school.

In commenting on the conclusion of Skodak that environment may cause a shift in I.Q. from one extreme to another, Goodenough questions the accuracy of such a statement and mentions a number of weaknesses in the study on which the conclusion was based.[4]

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[1] Marie Skodak, Children in Foster Homes, *Studies in Child Welfare*, **16** (January, 1939), University of Iowa, p. 132.

[2] Milton Cohler, Some Educational Implications of the Changing I.Q., *Educational Method*, **19** (November, 1939), pp. 113–117.

[3] Paul Witty, Toward a Reconstruction of the Concept of Intelligence, *Educational Method*, **19** (November, 1939), pp. 63–72.

[4] Florence L. Goodenough, in "Intelligence: Its Nature and Nurture," pp. 341–349, Thirty-ninth Yearbook of the National Society for the Study of Education, Part I, Public School Publishing Company, Bloomington, Ill., 1940. Quoted by permission of the society.

According to Miss Goodenough, the demonstrated facts are these: if pupils of *school age* are given the Binet scale such as the Stanford or Kuhlman revision, under standard conditions by competent examiners

> Most of the intelligence quotients thus earned will show only small fluctuations upon retesting with the same scale after intervals varying from 1 to 6 or 7 years. Considering all the evidence, it is safe to say that 50 per cent of the elementary-school children will not change their standing by more than 5 points of I.Q. in either direction, while the remaining 50 per cent will show somewhat greater variation.[1]

These conclusions indicate that mental abilities are stable enough that one can feel confident that a superior pupil, on entering high school, will be superior when he finishes, and one who is inferior will remain so. There is no evidence that high-school training will make a superior pupil from one below normal. In retesting with intelligence tests, one finds fluctuations but many have been traced to personality and emotional factors operating at the time of the test, or language handicaps, inattention, inability to understand the instructions, and to a lack of reliability or even validity of the test used. Many persons prefer to give three intelligence tests close together and test once a year in order to get as accurate a measurement as possible. For those who cannot afford so frequent a testing program, no injustice will befall an individual if he is guided on the basis of tests given less frequently, especially if teachers use their own judgment as to his ability, and factors other than intelligence are considered.

Special Aptitudes.—What has been said about general intelligence holds true for specific traits such as musical, artistic, mechanical, linguistic, motor, and mathematical abilities. Although affected by training, they are stable enough that one can predict future capacity by present capacity, and one need have no fear of beginning training on some aptitude at an early age. There will be an apparent improvement with training, and one with less innate capacity, with training, may surpass one with greater capacity and less training. Although nature sets the limits beyond which one may not be trained, the limits are broad.

Other Traits.—Other characteristics as moral and emotional traits, interests, and personality, although effected somewhat by native endowment, are due mostly to environment and are subject to training. There is no such thing as being born dishonest, for those who are dishonest have either not been taught respect for ownership or have even been taught to lie and steal. Emotional stability develops with age and experience, and personality changes and development may be materially altered in a few years by means of persistent efforts and application. One may possibly inherit a tendency to emotional stability or the opposite, but the evidence seems clear that much that happens to pupils in this respect is acquired.

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[1] *Ibid.*, p. 357.

Differences Due to Sex.—It is only within the last few years that girls and boys have been treated nearly alike in secondary schools. A few centuries ago, girls were denied a secondary education; a few generations ago their training, especially in girls' schools, was quite distinct from that of boys. In the modern high school boys and girls are found together in practically every subject and activity. One of the causes of this difference in treatment was the belief that in mentality girls were inferior to boys, and that heredity, rather than environment, accounted for a difference in many special abilities and interests. Since the appearance of more exact methods of measuring traits and abilities, and the development of a scientific approach to the solution of educational problems, many popular beliefs based on speculation and opinion have been proved false. A few conclusions based on studies of sex differences are as follows:

1. The supposed difference between the sexes in mental ability has not been demonstrated, for on the contrary, the sexes appear to be about equal in general mental ability. Many studies show that there are more boys than girls at the extremes of the distributions of various measurements, but this is not definitely established, and the overlapping is almost complete.[1]
2. There is little objective evidence, but a common view among psychologists, that there are sex differences in personality, temperament, and interests, perhaps due to endocrine glandular differences.[2]
3. There is a small but consistent superiority of girls over boys in general linguistic ability.[3]
4. Evidence favors boys in most tests involving numbers.
5. Girls do better in memory.
6. Boys surpass girls in mechanical ability. How much of this is innate is, of course, not known, but environment obviously produces much of the difference.

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[1] Freeman, *op. cit.*, p. 213.

[2] *Ibid.*, p. 217.

[3] E. A. Lincoln, "Sex Differences in the Growth of American School Children," pp. 43*ff.*, Warwick and York, Inc., Baltimore, 1927.

7. There is a sex difference in interests in reading and in observation of specific objects and things in the environment.[1]

On the whole, sex differences are compensating, and for every one in favor of boys, one can usually find one in favor of girls. When one considers total scores on tests, there are no significant differences. It is only on the parts that differences are revealed. As far as the school curriculum is concerned, no special differences need be shown save in a few subjects. In home economics, girls usually meet together, and in shop and mechanical arts, boys meet together. Schools which have offered courses in home economics for boys found they learned certain phases of home arts as well as girls and that they were interested. The same is true of girls taking manual arts. In physical education, owing to differences in structure, girls cannot compete with boys, especially in such organized sports as football, basketball, and baseball, or in track. In all other respects, differences within either sex are much greater than differences between them, and they may be neglected.

Differences Due to Race and Nationality.—There is a difference in test scores made by groups of different races and nationalities, but whether they are due to any genetic causes or to environment has not been established. Tests given to school children in the United States of different races and nationalities show that on the whole the North American Indians and American Negroes are mentally inferior to the white population at large, but this conclusion is valid only under present environmental conditions, and one must bear in mind that there is great overlapping of the distributions.[2] Of the different nationalities, those testing high are the English, Scotch, Jewish; those testing about average are the Scandinavian, German, Bohemian, Chinese, and Japanese; and those testing below average are the Italian, Polish, Portuguese, French Canadian, and Mexican.[3] These conclusions are valid only with groups of these nationalities in the United States, and some reasons which account for a part of the differences are the selective factor of those migrating to the United States, environmental differences, and language difficulties.

Educationally, there is so much overlapping of abilities of groups of different races and nationalities, which means that differences within groups are greater than between them, that no distinctions need be made for them. Superior and inferior individuals may be found among all races and nationalities, and the effective intelligence of any individual may be raised through education.[1]

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[1] Freeman, *op. cit.*, pp. 203–211.

[2] *Ibid.*, p. 183.

[3] *Ibid.*, p. 175.

Differences Due to Age and Maturity.—Mental functions begin their development with infancy and continue to grow until maturity. They develop concomitantly, that is, the growth of each trait parallels that of others. Owing to environmental conditions and training, all traits do not develop at the same rate, nor do they necessarily reach their maturity at the same time.

Most traits reach their maximum growth in the late teens, or at least, the yearly increments are so slight after that time that they are difficult to measure. No one knows just when growth really stops and decline begins. Ability to learn, however, improves far beyond the teens because of the accumulated effects of past learning, improved efficiency, and experience.

It is a mistaken idea, as shown by Thorndike, that adults cannot learn many things as well as or better than those of a younger age.[2] Mental decline is not serious until many years after adolescence. Adults can learn things often believed impossible. The main reason adults do not learn more is that they do not wish to learn. Adults surpass children on practically all types of learning: memory, reasoning, discrimination, judgment, and problem solving. Children will often do better in rote memory, and then only because they have fewer interests, fewer distractions, and are more docile.

There are two causes of differences due to age: one the factor of the maturation of mental traits, and the second, increased chronological age bringing increased and varied experiences. Age cannot be neglected as a factor in the secondary school. Gradual changes should be introduced in methods of discipline, techniques, school government, and especially in the curriculum. Grade placement of certain topics is very important for it may determine whether or not pupils will understand the material or develop an interest in or a distaste for it.

There is no definite age when one trait should be trained more than others, but all should be trained as they develop. For example, there was a former belief that one memorized better before puberty, and reasoned better afterward. Actually, memory and reasoning ability, together with other traits, are present at birth and develop together.

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[1] *Ibid.*, p. 186.

[2] E. L. Thorndike, "Adult Learning," The Macmillan Company, New York, 1928, 335 pp.

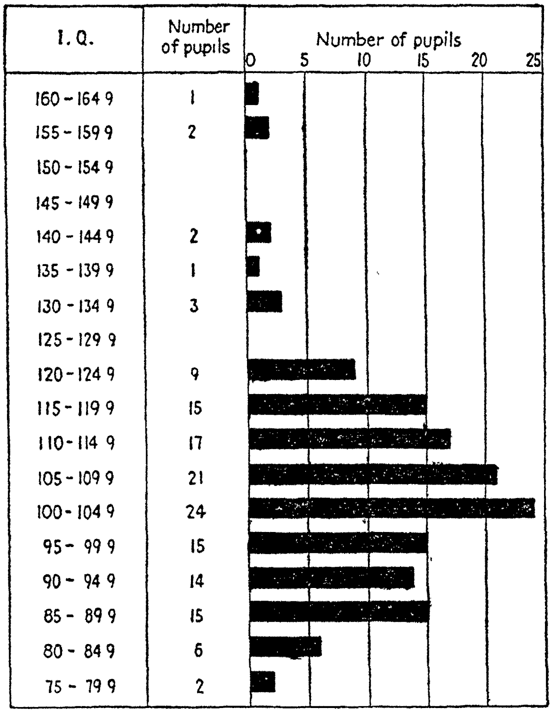
THE EXTENT OF INDIVIDUAL DIFFERENCES

All are conscious of and aware of physical variations and differences among people with respect to height, weight, shape, proportions, skin color and texture, and color of hair and eyes, but because mental, emotional, moral, and personality traits are not always displayed they often are not detected. In any high-school class of 25 to 30 unselected pupils, if one could observe visible evidence of mental traits, the degree and extent of the differences would be even greater than the more obvious physical ones. To detect the variations in mental traits, teachers must employ tests, rely on observations, and get pupils to express themselves orally, verbally, and in activities; while physical ones need only to be observed by inspection.

The Distribution of Differences.—Nearly all traits are distributed normally or they approximate a normal distribution, that is, the majority tend to cluster around a central point and a small group deviate very far either above or below this center. In Fig. 27 is shown by bar graph the distribution of mental-test scores of an unselected group, and the same data are shown in Fig. 28 with the midpoints of each bar connected and smoothed. The resulting curve is bell-shaped and resembles a curve called a "normal curve." Strictly, normal curves are practically never found in actual measurements of groups, but most measurements, if there are enough cases and no selective factor operating, will approximate a normal distribution.

The normal curve is valuable in studying the variations among pupils, the spread or extent of the variations, and the number of cases deviating very far from the means. Knowing that a given trait of a class is normally distributed, if one measures the trait and does not get a normal distribution, he can seriously question the accuracy of the test. Not knowing the trait is normally distributed, he may conclude the group is a selected one.

Differences in Mental Ability.—Figures 27 and 28 not only represent how traits are distributed in general, but also how general mental ability is distributed. In this group of 147 high-school pupils, the range of I.Q.'s was from 76 to 164 or, according to the general interpretation placed on I.Q.'s, from feebleminded to near genius. Because 164 is more than twice 76, one cannot say that the



I. Q.	Number of pupils
160 - 164 9	1
155 - 159 9	2
150 - 154 9	
145 - 149 9	
140 - 144 9	2
135 - 139 9	1
130 - 134 9	3
125 - 129 9	
120 - 124 9	9
115 - 119 9	15
110 - 114 9	17
105 - 109 9	21
100 - 104 9	24
95 - 99 9	15
90 - 94 9	14
85 - 89 9	15
80 - 84 9	6
75 - 79 9	2

FIG. 27.—Intelligence quotients of 147 high-school pupils representing a typical small high school. (*Data gathered by the authors.*)

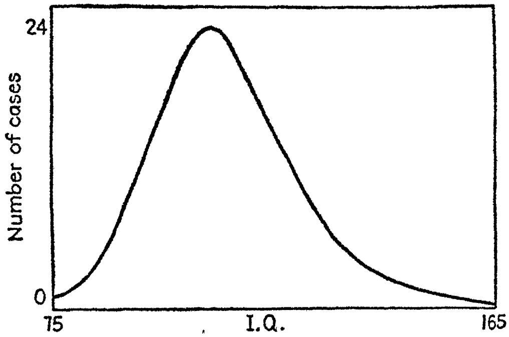


FIG. 28.—Intelligence quotients of 147 high-school pupils representing a typical small high school. (*Same data as in Fig. 27 plotted by connecting the midpoints of the frequencies and smoothing.*)

former is twice as bright as the latter. Just how much better he is must be stated in terms of a description, rather than a ratio, for until zero intelligence can be determined one cannot state differences as a ratio.

Knowing that one pupil has a high I.Q. and another a lower one is not sufficient information for instructional purposes. In addition to this, it is necessary to know just what differences there are when there is a variation of the I.Q. of persons of the same chronological age. In general the brighter pupils can learn more rapidly and understand difficult material more readily. They memorize more rapidly, and retain longer. They are better at problem solving, have keener imaginations, better discriminating ability, both mental and sensual, and have greater ability in mental imagery. They can also exercise better judgment, and can see relationships more readily than those of lower mental abilities.

Differences in Achievement.—Just as those with higher I.Q.'s are superior in mental traits, so have they achieved more than those of the same chronological age, but with lower mental ages. Differences will be detected in knowledge of common everyday things of life, in number and variety of interests and experiences, in vocabularies, use of English, reading speed and comprehension, and general achievement in school subjects. It is often thought that duller pupils do not have strong interests compared with brighter pupils. The true difference lies in the number of interests rather than their intensity, for dull pupils do have strong interests, but not in so many things. The nature of an academic and linguistic curriculum is more appealing to the bright than the dull. Pupils who are inattentive in class are perhaps thinking of something other than the topic being discussed.

Differences in Specific Aptitudes.—Although there is a tendency for those who excel in one capacity to possess outstanding ability in others, owing to such various factors as innate ability, physical structure, environment, interest, and opportunities, there are usually a few traits possessed by each pupil which are stronger than others. Many examples can be given of outstanding men who achieved distinction in many fields, as Leonardo da Vinci, Sir Frances Galton, Benjamin Franklin, and Samuel B. Morse, but each of these men was not equally competent in each field, and there was one in which each did better than in others. There is more likelihood of extreme deviates in musical, artistic, motor and mechanical ability than in such mental traits as mathematical and linguistic ability. An unselected class will show wide ranges of achievement in all these traits.

Differences in Moral, Emotional, and Personality Traits.—Differences in moral traits will vary all the way from the strictly honest to the kleptomaniac; from those who never cheat to those who are always looking for an opportunity to do so; from those who are always truthful to those who prevaricate even when the truth is more to their advantage. In any large group of pupils one will find the bragger, the bully, the egotist, the "smart alec" types at the one extreme to the modest, bashful, timid, reticent, and backward types at the other. With respect to emotional development, the range is from the even-tempered quiet, docile, easily hurt, weeping type, to the impulsive, quick-tempered, temperamental, emotional types of pupils. The great majority, however, lie between these extremes. It must not be assumed that there are distinct types, for there are not. Each individual differs from others in quantity and not quality, and there is a gradation constituting a continuous series from one extreme to the other with the great mass of individuals grouped around the middle.

PROVIDING FOR INDIVIDUAL DIFFERENCES

Generally speaking there are two ways of providing for individual variations. These include techniques employed in the classroom by the classroom teacher, which may or may not require cooperation with other teachers, and administrative devices or those involving a change in the entire school organization.

Classroom Techniques.—There are very few classroom techniques of teaching which are effective if applied to a group as a whole without consideration of the fact *that a group is a collection of, not a composite, of individuals.* For example, it has been found that knowledge of results of effort or study causes learning to proceed more rapidly than when this knowledge is withheld; but, the knowledge of results must be specific for each individual. Likewise, group graphs of achievement are not as efficacious as individual graphs. It has often been stated that group competition is a good motivating device, but it has little effect unless each individual is made aware of his own contributions to the group. The broad general statement that "the whole is better than the part method for memorizing" is meaningless or almost unfounded, for individual differences are such that what constitutes a whole for one person does not necessarily do so for another. Furthermore, if the teacher tries to determine what constitutes the whole she is assuming there are no differences among pupils or is ignoring them.

Much time has been wasted on drill or practice in fundamentals because all pupils have been drilled on the same materials. Drill should be motivated, socialized, and individualized; that is, the weak points of each pupil should be determined by means of diagnostic tests and specific, individual remedial exercises prescribed for improving these weaknesses. This requires that each pupil will drill on separate material.

Many techniques are effective for pupils of one level of intelligence which are not equally effective for those of another level. For example, it is difficult to draw conclusions concerning the relative merits of the lecture-demonstration method and the individual-laboratory methods of science instruction, because pupils of different levels of ability react differently. The amount of home and school study varies with the ability of pupils, while transfer of training is directly related to the intelligence of pupils. The undifferentiated daily group assignment, if pitched to the average pupils, is usually above the ability of the poorer ones, and so easy the better ones will not have to exert themselves. Individual, differentiated, long-term assignments, supplemented from time to time, recognize pupil differences.

Unit-Laboratory Plan.—Perhaps the best plan for caring for individual variations in the classroom is the unit-laboratory plan for content subjects, and the self-directive plan for drill subjects.[1] In both these plans, the daily recitation with its attendant evils is replaced by individual and subgroup work periods with the teacher serving as guide and director. Each pupil works on a different phase of a unit or topic, the selection being made by the pupil. These selections should be congruous with his interests and abilities. In this method the superior pupils are not permitted to use their superior ability to "get by" with less work while the duller ones are forced to work to the limits of their capacities. Each contributes to the common topic in proportion to his ability. When all have completed the various phases of the work, reports are made to the entire group of some form of culminating activities devised to organize, summarize, and integrate the unit around the whole general field of learning.

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[1] Robert W. Frederick, Clarence E. Ragsdale, and Rachel Salisbury, "Directing Learning," pp. 180–217, D. Appleton-Century Company, Inc., New York, 1938.

Self-directive Plan.—In the self-directive plan of instruction, employed in gaining a greater mastery of fundamental principles of such subjects as arithmetic and reading, each pupil is given diagnostic tests, or is analyzed through classwork. Each pupil's strong and weak points are recorded and made known to the pupil, who proceeds to remedy the weaknesses through appropriate remedial exercises. When each pupil feels he has mastered a phase of the work, he gives himself a test, evaluates his own progress, and, according to the results of the test, either does additional work on the same phase or proceeds to additional skills. After the pupil tests himself, the teacher gives him additional tests.

These two plans, although they may be employed by a single teacher, are more effective if teachers of the entire school employ the same techniques. Cooperation of the pupils, aid from other teachers, and administrative supervision are better secured when the entire school makes the change from the recitation method to the unit-laboratory method.

The most retarded pupils, when achievement is measured on the basis of what the pupil is capable of learning, are those with superior abilities. Few ever work to more than a major fraction of their capacities. It is estimated that the more intelligent work to about 20 to 30 per cent of their capacities and those of low abilities to about 80 per cent in order to do passing work in school.

Varying Time, Content, and Method.—The only things which can be varied in instruction are time, content, and method. The Dalton Plan makes provision for varying the amount of time each pupil devotes to units by means of written assignments called "contracts" on which each one works until the material is learned to the satisfaction of the teacher. If one can complete a unit in a short time he is permitted to proceed on others, while the slower pupil takes a longer time to get the same material. Methods varying the time have the disadvantage of having an uneven front, for after a few months, due to differences in speed, ability, and application, only a few pupils will be working on the same units at the same time. This method advances pupils *vertically*, for some pupils are advanced more rapidly than others, while the content is held constant.

The varied or differentiated assignment holds the time constant, keeps an even front, but varies the content. All pupils work on the same fundamental principles of each unit, and those who finish quickly may do additional work while slower pupils are mastering the basic material. In this method although all pupils advance at the same rate, superior pupils broaden their knowledge at the same level. It is often spoken of as "enriching the course" for superior groups by additional work.

Administrative Plans for Providing for Individual Differences.—The project method, the group-study plan, the Dalton Plan, and the socialized recitation were all forerunners of the unit-laboratory and self-directive plans. All these plans are still being practiced in some form in many schools, but, since the unit plan is a more recent outgrowth of these, a description of them would be of historical interest only. Since these plans still require that pupils be grouped or sectioned into classes on some basis, grouping is practiced in some form or another in nearly all schools. The various bases for grouping are ability, sex, chronological age, puberty, failure prospects, physical handicaps, mental defectives, and curriculums.

Ability Grouping.—Grouping on the basis of mental ability and achievement is commonly called "homogeneous grouping." The usual bases for sectioning pupils involve two or three criteria, as I.Q. or M.A., achievement-test scores, marks, and judgment of the teacher. Whether the M.A. or I.Q. is used depends upon the age range of the pupils. If they vary widely, then M.A. should be used; if near together, the I.Q. is a better basis. Usually two criteria are sufficient, while more than three are unnecessary and hard to administer.

The number of sections should be three if possible; the extremes, and the central portion of the distribution. If only two sections are made, each one will contain average pupils, with poor ones in one group and superior in the other. After being sectioned, transfers should be made if one is found to be a misfit. Since abilities and achievement in different subjects are not uniform, separate groupings should be made for each subject.

Many claim that homogeneous grouping should not be practiced because the groups are not homogeneous after they are sectioned. Quite true. To make them strictly homogeneous there would have to be as many groups as there are pupils. There will always be overlapping of abilities regardless of the care and accuracy employed in sectioning. Other arguments against ability grouping are that those in the slow section are often called the "dummies" or some such names by their classmates, while those in the upper group are called the "smarties." These faults may be partly obviated by not telling pupils that any selective techniques were employed in selectioning them.[1]

The arguments for grouping are that since different techniques need to be employed for those of different levels, grouping facilitates doing so. While a teacher is taking time to explain to one or two pupils who are slow to comprehend some principle or see some relationship, the brighter pupils will be bored. If teachers think that so-called homogeneous grouping will eliminate these problems, they are doomed to disappointment, for, *after grouping, differences, which were formerly submerged, will become evident; and, unless an individualized method of instruction is employed in each group, the plan will be ineffective.*

Regardless of whether the content or the time is varied, the method of instruction should vary for different groups, and individuals within groups. Perhaps the greatest advantage derived from grouping is that it gives the teacher an opportunity to vary the time, content, or method for the different groups. If the teacher does not vary one of these three, there is little value in grouping.

Sex Segregation.—As mentioned in a former section of this chapter, educationally little difference need be made between pupils because of a sex difference. Perhaps the chief differences between the sexes are those in interests and in physical structure. If individualized methods of instruction are employed and the school can provide elective courses, the factor of interest will not require any sex segregation. Some advise sex segregation in biology where reproduction is taught, but, when many biology teachers were asked if they preferred mixed or segregated groups, the great majority said that separation was not necessary.[2] In physical education, because of differences in structure, the sexes should be separated.

If boys and girls are to be taught to live together and to have proper attitudes toward each other, it cannot be done by separating them. Briggs suggests that sex differences due to earlier maturation of girls are great enough to warrant a separation, and that the school can remain democratic by practicing coeducation in everything save in class instruction.[3] There is a great amount of overlap in ages at which boys and girls reach puberty, and differences attendant on puberty do not accentuate existing ones markedly. Classroom activities are the most vital of school life and, if separated there, a feeling of secrecy, taboos, and prohibition is established between the sexes. Sex segregation is an old, not a new idea, which had its origin in religious practices and training. It was not until about 1870 that one of our main churches removed the restrictions of men and women sitting together in church! Furthermore, economic conditions would prevent it, even if sex segregation were good.

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[1] For an excellent critique of homogeneous grouping, see Alice V. Keliher, "A Critical Study of Homogeneous Grouping," Teachers College, Columbia University, New York, 1931, 165 pp.

[2] Informal investigation by the authors in university classes.

[3] Thomas H. Briggs, "Secondary Education," pp. 167–169, The Macmillan Company, New York, 1935.

Chronological Age.—It is doubtful if much will be gained by grouping secondary-school pupils according to chronological age. There is a wide range in ages from the seventh to the twelfth grades, but the age range in a given grade is not so great, in fact, hardly great enough to make any great difference in instruction because of an age variation. The mere fact that each one has completed the same number of school grades is evidence that they are about as homogeneous as they can be grouped on a chronological-age basis. Perhaps the only main difference is that of maturity or stage of development with respect to puberty, and chronological age is a poor measure of this degree of development.

Puberty.—One of the early claims made for the junior high school was that it would bring together a homogeneous group with respect to stages of physiological development, but, as shown in Chap. VII, actual measurements of adolescents reveal that there is no given chronological age in the junior high school at which pupils are homogeneous with respect to puberty. In grades 1 to 6, pupils are nearly all prepubescent. In grades 7, 8, and 9, they are at all stages of development; therefore, if there is an advantage in grouping according to puberty, it should be practiced in the junior high school.

There is a relationship between mental development and physiological development so if grouping is based on the one the other factor will be included. Likewise such a basis would bring together a group more homogeneous with respect to emotional and social development, and pupils do better work when they are grouped with those who are like them in social, mental, emotional, and physical respects, regardless of chronological age. Since girls mature slightly ahead of boys, grouping by puberty would indirectly result in the same advantage claimed by the proponents of sex segregation on the grounds that being more mature, boys should not be classified with them.

There are many advantages of grouping on the basis of puberty, but the actual mechanics of sectioning pupils are difficult. Changes from one stage of development to another are gradual, and not obvious enough that the usual classroom teacher can detect them. Furthermore, a constant reclassifying of pupils would be necessary to keep the groups homogeneous. Since there is the relationship between stages of puberty and mental ability, grouping on the basis of the latter will serve the same purpose. As to social grouping, the natural grouping of the pupils themselves in free-elective subjects and activities is a better division than that derived from any basis employed by the faculty.

Curriculums.—The grouping of various types of pupils should be practiced more in the junior than in the senior high school. The senior-high-school pupils are more homogeneous owing to elimination, and also because they group themselves by electing various curriculums and in having many more free electives than in the junior high school, where the majority of the work is prescribed.

Educational and Vocational Guidance.—One of the most important administrative devices for caring for pupil variations in abilities, interests, and aptitudes is through the educational and vocational guidance program. This phase will be discussed in Chap. XVI.

Varying Pupil Loads.—One of the chief methods of varying the amount of work a pupil does is by varying the pupil loads. Pupils who are capable, as demonstrated by previous marks and activities, should be permitted to carry maximum loads in terms of courses of study and in extracurricular activities, and, conversely, those who are failure prospects, or those who find it difficult to do satisfactory work, should have their schedules restricted and loads reduced to a minimum. This may result in a few pupils' requiring longer than the usual time to complete the secondary school, but, as a general rule, a minimum load should permit one to progress normally, while those who are able to do additional work should profit by an enriched curriculum rather than by finishing school in a shorter time.

Physically Handicapped.—It is a debatable question as to whether pupils possessing physical defects, but not of the type which inhibit doing schoolwork, should be segregated from normal pupils or placed in groups with them. It is claimed by some that the presence of defective pupils is unwholesome and may have unpleasant effects upon the others; while others insist that all should be grouped together in school for they are in life, and through school associations they will learn to have a greater understanding of and sympathetic feeling for the physically handicapped.

If the defects are of such a nature that special treatment or techniques are necessary, as defective hearing, vision, or speech, or any factor causing them to be unable to profit by normal instruction, they should be segregated into special classes or special schools. In these special classes teachers may employ suitable techniques to meet the needs of the group.

Mentally Deficient Pupils.—Few mentally deficient pupils survive the elementary school and reach high school. Since there is a tendency to give courtesy promotions in the elementary school to those who cannot profit by the instruction, many will complete the elementary school, but very few, if any, will enter high school who do not have the ability to profit by some type of secondary-school work. Those who are mentally deficient should be placed in special schools where suitable instruction may be given.

Integrated Activities.—One of the main purposes of integrated activities (commonly called "extracurricular" activities) is that of providing an opportunity for pupils to pursue their major interests. The activities should be purely elective, and through them special aptitudes, interests, and capacities may be discovered, developed, and pursued.

ELECTIVE COURSES

Over and above the required courses, or the core curriculum, all high schools should offer a limited number of electives from which pupils may have an opportunity to choose those subjects in which they are especially interested, or which they need. Elective courses represent the beginning of specialization which should not come until after the individual has achieved an adequate general education.

Aims and Functions of Electives.—There are several functions of the elective courses in high schools, the main ones being:

1. To further the legitimate aims and functions of secondary education.
2. To make provision for individual differences in interests, needs, and capacities.
3. To provide prevocational education for those not intending to go to college.
4. To begin the period of specialized training.

One of the purposes of secondary education is that of exploring the various fields of learning. The core curriculum provides an opportunity of exploring various fields selected by curriculum makers and the electives give pupils an opportunity to use their own judgment in making selections. Permitting pupils a free choice in the selection of a limited number of subjects is a form of pupil cooperation in curriculum making. It is impossible to offer all the courses in which pupils might be interested, and, perhaps, not desirable. Only those should be selected which further the legitimate aims and functions of secondary education. Those which make the greatest contribution to these aims, and provide for the greatest number of pupil interests are to be preferred.

Pupils will have discovered in the core curriculum special interests which they will want to pursue further, and the opportunity should be provided. Likewise, certain subjects will be needed by various groups for college entrance or as subjects basic to further study in other institutions. Those offered for these reasons are algebra, geometry, physics, chemistry, various courses in history, and foreign languages.

For those not intending to go to college, elective subjects provide a means of prevocational training of a general nature which will aid in selecting a vocation and advancing in it. These should be selected on the basis of providing a general background to a large number of specific vocations which are widely distributed, and which have social and personal, as well as vocational value. The content of vocational subjects should be so selected and presented that they will contribute to other than the vocational objective of education. Agriculture, home-art, industrial-education, business-education, and fine-arts courses meet these requirements.

Number of Electives Permitted.—There seems to be a growing tendency to prescribe the major part of the curriculum and to give fewer choices to pupils. Part of this is due to the expansion of the core curriculum to meet the needs of a complex society, and part to the belief that the core-curriculum content has universal interest and value. The core content is selected on the basis of universal needs. Fewer electives are offered as a means of meeting individual differences for the unit-laboratory method of teaching ideational subjects, and the self-directive method of teaching skill subjects provides for them in the core curriculum. Further provision is made through the wide variety of activities which have been included in the curriculum.

The proposed curriculum prescribes about three-fourths of the content. This leaves at least four free electives. If schools are large enough to offer a wide variety of subjects, the number prescribed may be reduced by certain substitute courses. For example, special courses in business English, journalism, and dramatics may be substituted for the fourth year of English, or agriculture and home economics may be substituted for one of the required units in science. There is no good reason why many pupils cannot pursue more than four "solids" a year and earn more than 16 units in four years. All units carried above a normal load may be elected.

Grade Placement of Electives.—Electives should not be permitted before the ninth or tenth grades, and the number should increase to the twelth grade. Elective courses such as typewriting, which have social and personal value, should be offered early so the skills acquired may be used during school. Subjects which have value mostly for college entrance should be offered in the eleventh and twelfth grades to leave room for other subjects placed early in the curriculum for those who will perhaps not finish high school, and certainly not attend college.

Organization of Electives.—The usual plan recommended and practiced for organizing the electives is on the logical or subject-matter basis. There are several reasons for this. If a pupil elects a course because he is interested in it or needs it, and it is combined with another, it may introduce topics not in his inventory of interests. This does not mean that we cannot make correlations between parts of somewhat unrelated subjects, or that subjects which have much in common cannot be combined. Interests are more likely to be broad than specific. Likewise, if electives cover a wide range of subject matter there is a greater probability of providing for all the individual interests than if they are made more specific.

There is some objection to the transcending of subject-matter divisions on the grounds that better history, for example, can be taught in regular history courses than can be taught incidentally in some other course. This is especially true if teachers are not adequately prepared in two fields. As a general rule they are not. It requires a greater degree of specialization to teach elective courses in the senior high school than to teach general basic courses in the junior division. Pupils are more mature and will be less superficial in their study of a subject. Furthermore, in the electives, subjects are pursued beyond the basic principles. These facts call for a greater degree of specialization on the part of the teacher. Teachers of electives should also have a wide range of related subject matter over and above a thorough knowledge of the specific field. It is doubtful if a teacher can compensate for a lack of knowledge of her special field by a smattering of related knowledge. No high-school subject should be taught as an end in itself. All should be related as much as possible to the social, economic, home, and vocational lives of pupils. Likewise they should be correlated incidentally with other subjects in order to maintain unity and make them more functional.

SCIENCE

The two most popular elective courses in science are chemistry and physics which are offered as logically organized subjects in the eleventh and twelfth grades. Other science subjects such as separately organized courses in botany, zoology, electricity, geology, photography, and astronomy are offered in larger high schools. None of the latter are offered in a large number of schools and the registrations in each are not great.

Normally, physics is offered in the twelfth grade and chemistry in the eleventh. In smaller high schools the practice is to offer one or the other of these or to alternate them. The latter is a desirable practice for it makes possible enrichment of the curriculum by providing more electives.

Some of the trends indicated in the teaching of high-school science are: the organization of the content into units, the use of visual materials, the use of home-made apparatus, the continued interest in organizing science clubs as a means of enriching regular courses, the better use of equipment, and a study of the most efficient techniques of demonstrating scientific laws and principles.[1] Although these trends were reported in 1932, indications are that science instruction is still progressing along these lines.

Physics.—Physics has more and a greater variety of applications in every-day life than any course in science. It covers the general divisions of mechanics, heat, electricity, sound, and light. General principles of these divisions are employed in heating, lighting, and ventilating homes and buildings; in the economic consumption of utilities; in the proper use of electrical appliances; in musical instruments, and in photography. Through a study of physics an understanding is gained of such mechanical devices and machines as the telephone, telegraph, radio, phonograph, sound picture, gasoline and steam engines, X rays, the automobile, and airplane. These machines are found in all parts of the country and it is doubtful if there are many pupils who will not come in contact with many or all of them. An understanding of machines is not essential for some consumption purposes, as in the case of the cinema or telephone, but is essential for the operation of machines like the automobile. In those cases in which pupils will not need an understanding for utilitarian purposes, knowledge will give a greater appreciation of the services rendered and will satisfy a curiosity as to how the machine operates and dispel ideas of "magic."

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[1] "A Program for Teaching Science," pp. 269*ff.*, Thirty-first Yearbook of the National Society for the Study of Education, Part I, Public School Publishing Company, Bloomington, Ill., 1932.

Robert A. Millikan gives five reasons for studying physics:

> 1. The supreme contribution of physics to the development both of civilization and of the individual is found in its enormous influence in the creation of the conviction that nature is not capricious, but is instead, at least to a very considerable extent, understandable and even controllable by man.
>
> 2. A second reason for the study of physics is found in its direct utility. As civilization has slowly evolved during the past ten thousand years, in each succeeding century man has gone a step farther in replacing his feeble muscles by giant natural forces controlled by his brain. . . . If a young man goes into medicine or any brand of biology he very soon finds that physics is a prerequisite, for the laws of physics rule in the world of life. If he goes in for engineering, he must master the principles of physics before he can even make a start. If he plans to be a salesman, the product which he sells will nowadays, in nine cases out of ten, be one which involves the principles of physics for its preparation, and which demands a considerable knowledge of these principles by one who would intelligently market it. Even if one's life is spent in the duties of the home, these duties have so changed and expanded within a quarter-century with the introduction of new mechanical, thermal, electrical, and optical appliances that one can scarcely do housekeeping today without considerable knowledge of the principles of mechanics, of heat, of electricity, of sound, and of light, which are precisely the categories involved in every modern course in physics.
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> 3. A third contribution of physics is found in its disciplinary value. The study of the mathematical and physical sciences is almost unique in the opportunity which it gives to the teacher to break away entirely from the memorizing, textbook method, and begin to show his pupils, first, how to observe carefully and dispassionately; and second, how to reason intelligently from cause to effect.
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> 4. A fourth value of physics lies in its peculiar adaptation to develop the habit and the art of problem solving.

5. A fifth contribution of physics is found in the social value of the scientific method.[1]

From an analysis of 162 statements of 68 authorities in physics, Hurd formulated the following aims and values of physics in secondary schools:[2]

1. Reveals and interprets physical life, giving breadth, perspective, and balanced appreciations.
2. Develops a rational individual, able to use certain specific knowledge, skills, interests, abilities, or habits in better solving the everyday problems of life.
3. Develops social and vocational efficiency.
4. Prepares students for college entrance.
5. Teaches the laws and principles of physics.

Chemistry.—Although chemistry has fewer applications to everyday life than physics, there are a sufficient number to warrant its inclusion in the curriculum on practical aims even if there were no others. Chemistry has a wide variety of applications in the home, as in cleaning clothing, dyeing, bleaching, disinfecting, exterminating insects, ventilating, and cooking, and plays an essential part in the production of medicines, soaps, perfumes, etc. A knowledge of the chemistry involved in these processes is not indispensable, but a better understanding will lead to more efficient use of materials and give a better appreciation of the services rendered through chemistry.

A knowledge of household chemistry may contribute to safety in the home. A knowledge of such poisonous gases as carbon monoxide and natural gas, of explosive gases and cleaning solutions, and of antidotes for various medicines which are poisonous if taken in excess will reduce the number of accidents caused through these sources.

Through chemistry, many have found outlets for leisure-time activities, and chemistry is needed as a phase of hobbies involving other subjects, such as photography. In some leisure-time activities, a direct knowledge of chemistry is essential, as in electroplating copper or nickel, while in others some laboratory techniques are essential as in those involving measurements of volumes, the use of chemical balances, or the construction of furnaces for melting metals. If one is to derive the greatest amount of enjoyment from photography, and reduce the cost of the hobby, one must mix his own solutions and develop his own negatives and prints. The scientific knowledge and skills involved in electroplating copper, nickel, silver, and chromium are not great and can be acquired by any high-school pupil. Etching, the opposite of plating, is an easily acquired hobby. Many crafts involve the casting, welding, soldering, etching, and plating of metals and various plastics. Over and above hobbies of a utilitarian value involving chemistry, many young people have amateur chemistry outfits with which they may produce chemical reactions causing color changes, effervescence, crystallization, spontaneous combustions, and mild explosions which are enjoyed because of their spectacular nature.

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[1] Robert A. Millikan, Physics, in "A Correlated Curriculum," Report of the Committee on Correlation of the National Council of Teachers of English, Ruth Mary Weeks, chairman, pp. 291–293, D. Appleton-Century Co., Inc., New York, 1937.

[2] In the Thirty-first Yearbook of the National Society for the Study of Education, *op. cit.*, pp. 246–247.

A knowledge of chemistry will give pupils a better understanding of, and appreciation of, the legions of applications of chemistry outside the home, especially in the fields of agriculture and industry. Such a knowledge may also lead to an interest in any number of vocational pursuits. The general fields including chemistry are: soil fertility, plant foods, insecticides, control of bacteria, explosives, fuels, soaps, dyes, perfumes, medicines, mining, smelting, refrigeration, printing inks, paints, and the synthesis of many products formerly secured only in nature.

The aims of chemistry presented so far are of a practical nature. Chemistry may be studied also for the pleasure derived in the subject itself without reference to the exigencies of life. The beauty of chemistry is found in its exactness, in the orderliness of the periodic table, the success of synthetic methods, the extent to which the reactions of elements may be predicted and pictured by means of symbols, formulas, and equations, and the wide distribution and uses of the elements and their effect on mankind.

Methods of Teaching Elective Courses in Science.—It may be assumed that those who elect courses in science do so because of an interest and aptitude in the subject. Regardless of this the subject must be presented in a manner to show its applications to life and how it may function in everyday life rather than as compilations of laws, rules, principles, facts, formulas, and equations. Emphasis should be placed upon the development of an ability to generalize and solve problems and acquire concepts, rather than on the accumulation of knowledge.

As much use as possible should be made of laboratory apparatus and equipment. So far as it has been demonstrated, scientific experiments may either be performed by the pupils or demonstrated by the teacher, if results obtained are measured only in terms of the acquisition of knowledge. In many experiments it is better for a pupil to experience a demonstration effectively by observation than ineffectively through his own performance.[1] In others, pupils may gain a better understanding of a scientific principle through individual activity than through lecture demonstrations. Facts may be acquired through either method; but actual experience is needed before one has knowledge. If pupils have learned to generalize from their knowledge, they have acquired a concept. Thus facts are only the first step in the process leading to concepts, and the most important intermediate step is experience. Vicarious experience is seldom as valuable as actual experience, but sometimes we must resort to the vicarious because it is impossible or impracticable to teach things directly.

In the acquisition of skills and habits, actual performance is essential. Granting that the high school is not the place to train scientists, if certain phases of science are to function in the lives of pupils certain habits and skills must be acquired. A few of these are: skill in the use of a chemical balance, a Bunsen burner, a microscope, a thermometer, and in pouring solutions from one container to another. Habits of cleanliness, accuracy, exactness, safety, and economy are also necessary.

Actual necessary experience may be acquired, and the necessary habits and skills gained through a number of individual exercises, while the majority may be demonstrated. Demonstrated experiments require less time and equipment than individual laboratory work, which favors the smaller high schools especially.

Integrating Elective Science Courses.—Although physics and chemistry maintain their logical organization as electives, they may be integrated through cooperation or fusion. If physics and chemistry are to be made practical, and are to function in pupils' lives, the materials must be applied to life situations. Making physical and chemical laws and principles ends in themselves will not result in much transfer of training. Transfer must be taught by generalizing and applying. There is little place in a modern high school for pure science. If correlation of subjects in the core curriculum is justified on the basis that it facilitates transfer, and does so because there are no life-adjustment problems involving one subject only, then it is just as sound for the elective subjects. On the other hand, the elective subjects should grow out of the core curriculum and be designed to permit pupils to pursue further certain subjects of their own interest. This precludes any argument for unifying the entire content of the electives, but does not preclude fusing such closely related subjects as physics and chemistry, botany and zoology, plane and solid geometry, or the separate histories forming the fused course in world history.

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[1] Rudyard K. Bent, Comparative Effectiveness of a Freedom Method and a Conventional Method of Teaching High-school General Science, *School Science and Mathematics*, **33** (October, 1933), pp. 773–776.

A senior science, involving mainly physics and chemistry but drawing on other sciences if needed and organized about units, should meet the needs of senior-high-school pupils more than separate courses. At present physics and chemistry are too technical and impractical for the average high-school pupil. A suggested group of units for such a course would be:

How man has learned to keep time.
Conservation of natural resources.
Getting a pure water supply.
Getting a pure food supply.
Photography.
Transportation.
Communication.
Purchasing commodities.
Consuming utilities.
The composition of the earth.
Getting raw materials.
Man's place in the universe.
Heating, lighting, and ventilating homes.
Patent medicines.
Preserving foods.

An example of the close relationship between certain phases of physics and chemistry is found in the study of the storage battery. Both subjects are essential to a complete understanding. If the subjects are organized logically, half the story is told in each course. If a pupil only pursues one of the courses he never gets the entire picture; if he pursues both but each in a different year, he may never associate the chemistry of the battery with its physical properties. The same is true in photography, refrigeration, conservation of minerals, safety, consumer education, and the consumption of utilities. The argument that physics will be poorly taught through the medium of chemistry and vice versa is not necessarily valid, for they might be better taught. Few teachers prepare for one only of these sciences, for in training for one teachers are usually required to take courses in the other.

MATHEMATICS

The mathematics recommended for the core curriculum is general in content. The majority of it will be arithmetic with a number of fundamental principles of algebra and geometry. The usual elective courses in mathematics are separate, logically organized courses in algebra, geometry, and trigonometry. The usual sequence of courses is elementary algebra, plane geometry, advanced algebra, solid geometry, and trigonometry. There is no pedagogical basis for this order, for geometry does not depend upon a knowledge of algebra. If geometry is interspersed between beginning and advanced algebra, much time must be spent in the latter course reviewing fundamental principles before more advanced concepts may be presented. If both algebra and geometry are needed for college entrance, the order is not important for no pupil who will attend college will drop out of school before graduation. One has no greater social utility than the other which precludes a preference on that ground. There seems to be no basis other than tradition.

Aims and Functions of Elective Courses in Mathematics.—Elective courses in mathematics serve several purposes:

1. They provide an opportunity for those who wish to pursue further the study of quantitative relationships in a formal manner.
2. They are needed by many pupils to meet college-entrance requirements. The usual requirements are one unit in each of algebra and plane geometry.
3. They are needed by many pupils for a basis for various vocations.

A few of the more immediate aims of elective courses in mathematics are:

1. To further the development of the concept of number and of quantitative relationships.
2. To increase the facility in fundamental skills and develop new ones requisite for further study in science, engineering, and advanced courses in mathematics.
3. To develop an understanding and appreciation of the part mathematics has played in various fields of human activity.
4. To further the legitimate aims of secondary education.

Practical and Social Values of Elective Courses in Mathematics. There are few practical values of algebra, geometry, and trigonometry found in everyday life. Arithmetic has great social and practical value in many activities of life. Many false values have been advanced for these subjects, such as the use of progressions in computing compound interest, or measuring the distance across a river or the height of a tree by trigonometry. The former can be computed directly by arithmetic, or from interest tables; the latter, if there is an occasion requiring great accuracy, should be done by a surveyor. Otherwise, it may be estimated or measured by similar triangles. One great need for measuring distances is in taking pictures. The methods usually employed are estimates, stepping off the distance, tape line, and range finder. The writer has had years of experience with amateur photographers but has never seen one use trigonometry to measure his distance for a picture. There are plenty of worthy aims for mathematics without introducing remote possibilities in the lives of pupils.

A knowledge of mathematics has a great value in developing an appreciation of the place and importance of mathematics in modern society. Its application to the fields of science, industry, commerce, statistics, and the universe have changed man from a qualitative to quantitative thinker, and has been the basis for all science.

Vocational Values of Mathematics.—The great majority of vocations of the skilled-trade type require a knowledge of arithmetic, and many require some knowledge of algebra and geometry. Those above the skilled trades in the fields of engineering, architecture, surveying, mapping, geology, astronomy, physical sciences, statistics, economics, and banking require a knowledge of advanced mathematics.

The Propaedeutic Value of Mathematics.—One of the arguments advanced to justify the inclusion of formal courses in algebra and geometry in the secondary-school curriculum is that they are necessary to success in subsequent courses in other fields, especially science. These claims have been investigated by many and summarized by Benz in the Eighth Yearbook of the National Council of the Teachers of Mathematics.[1]

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[1] H. E. Benz, "A Summary of Some Investigations of the Teaching of High School Mathematics," Eighth Yearbook of the National Council of Teachers of Mathematics, Bureau of Publications, Teachers College, Columbia University, 1933, pp. 14–54.

Rugg and Clark investigated the amount of algebra needed in subsequent courses in mathematics and science. They concluded that "half the material in first-year algebra cannot be defined in terms of academic use."[1] When college courses in physics and chemistry were studied as to the mathematics required, it was found that the geometry needed in college physics was very elementary, not difficult, but often used. Williams concluded with references to college chemistry, that "a knowledge of fundamental processes in algebra is desirable, but by no means as essential as might be inferred."[2] Congdon concluded that very few geometric facts are needed in physics and these are the more simple and fundamental ones; and that the meaning of the sine, cosine, tangent and the use of tables of these functions constitute the amount of trigonometry absolutely necessary. He further concluded that the numerical trigonometry now taught in many junior high schools is quite adequate for college freshmen physics.[3]

From these investigations it seems that college-entrance requirements of mathematic are based on tradition rather than actual needs. "It seems likely that what college instructors want is the degree of intelligence represented by the ability to do the (mathematical) tasks when they insist that students be able to perform algebraic problems of a difficult level."[4]

Since the requirement of two units of mathematics is still retained by many colleges as an entrance requirement, mainly because of its selective technique, rather than an actual need, they can well abolish it and use other admission techniques. The requirement is unjust to the smaller high schools and to those who do not prefer mathematics, but who do have the ability to pursue a college course not including technical science and formal mathematics. Much evidence is accumulating concerning those who are admitted to college without the usual requirement in mathematics who finish without the courses, or take them during the junior or senior year. The writer has investigated many of these students, all of whom claim that they were never handicapped because they had not had a course in algebra or geometry.[5]

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[1] *Ibid.*, p. 17.

[2] *Ibid.*, p. 19.

[3] A. R. Congdon, Training in High School Mathematics Essential for Success in Certain College Subjects, p. 91, *Teachers College Contributions to Education* 403, Teachers College, Columbia University, 1930.

[4] Benz, *op. cit.*, p. 18.

[5] Unpublished paper.

Mathematics in Smaller Schools.—The small high school, of necessity, can offer only a single curriculum. The offerings are usually so few that practically every subject taught is required for graduation. This is especially true in schools enrolling fewer than 50 pupils, and 20 per cent of all schools are in this category.

If only one curriculum is offered, a question immediately arises as to what courses should be included. In making a selection, teachers are handicapped by college-entrance requirements, tradition, the heterogeneous character of the pupils, and the external influence of parents and organized groups. A number of facts should be borne in mind while selecting the mathematics courses for a small school:

1. The intelligence quotients of pupils will range, for the majority, from 75 to 125, with an average of about 100 to 102. This means that about one-half do not have the capacity to profit by formal courses, and that they will be unlikely to attend college.
2. For every 100 who start in high school, only 55 will graduate, and of these only 16 will start to college and only eight will graduate. A school enrolling 50 pupils may expect, on an average, only one in each class or year to finish college. Shall the college preparatory courses be offered for the ones going to college when they have little value for the others? Certainly they should not be denied the right to enter college on the basis of other entrance credits.

The following principles will be applicable in smaller high schools in order to meet the problems concerning offerings:

1. Offer general, or composite mathematics in grades seven, eight, and nine.
2. Offer college preparatory mathematics in the senior high school. Those who leave at the end of the ninth grade will have had practical rather than formal mathematics. Those intending to attend college will continue through grade twelve.
3. Make college preparatory mathematics as practical as possible. No harm will befall pupils in college if the courses are not formal.

FOREIGN LANGUAGES

Foreign languages, until recently, have occupied an important place in the secondary-school curriculum. One of the greatest influences of the Latin grammar school was the position it gave Latin in the academy and in the high school. In the early period of the academy there was a struggle to give English a place, so firmly rooted were educators in the Latin tradition. College-entrance requirements further accentuated and prolonged the influence of Latin in the curriculum, and it has been only in the last two decades that colleges have modified their specific prescriptions of Latin for entrance.

The introduction of modern foreign languages began in the academy and continued into the high school. Although many languages were taught, and many are taught at the present time, only three modern foreign languages have been very popular: French, Spanish, and German.

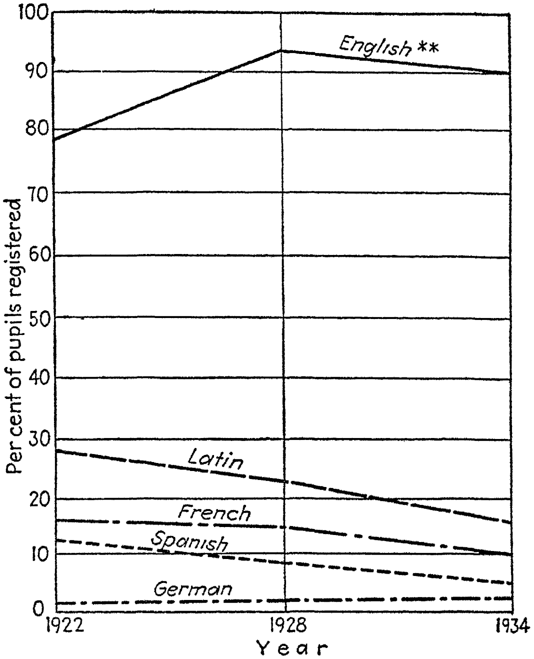

FIG. 29.—Registrations in English and foreign languages from 1922 to 1934. Registrations in courses such as dramatics, public speaking, and journalism are omitted. English was a divided subject before 1922. [*Biennial Survey of Education*, 1926–28, *U.S. Office of Education Bulletin* 16, 1930, *Chap. XXIV, pp.* 963–65, *and Carl A. Jessen, Registrations in Languages, School Life*, **23** (*September*, 1937), *pp.* 22–24.]

Trends in Registrations in Foreign Languages.—As shown in Fig. 29, the popularity of foreign languages is waning, because of three chief factors: (1) the increased enrollment has brought into the high schools a larger group who are neither linguistically minded nor interested in languages, (2) colleges have reduced, and in many cases, removed, language requirements for entrance, and (3) as additional courses are added to the curriculum and pupils are given a greater variety of subjects from which to select courses, a reduction of pupils enrolling in any given subject is a natural result.

Latin is still the most popular foreign language although registrations in it have decreased from 27.5 per cent in 1922, to 15.6 per cent in 1934 (Fig. 29). In 1915, 37.3 per cent of all pupils were enrolled in a course in Latin. French is next in importance followed by Spanish and German. In 1915, just before the First World War, registrations in German were 25 per cent, and by 1922 they were less than 1 per cent.

General Aims of Foreign-language Instruction in Secondary Schools.—There are three classes into which aims of foreign-language instruction may be divided: (1) the general aims, (2) the specific aims, and (3) the incidental aims. This division may be made of any subject, but emphasis is given here to the distinctions because the incidental aims of language instruction have been, by many, stated as the primary ones.

There are three general aims of foreign languages which justify giving them a place as electives in the high-school curriculum:

1. To develop tolerance for, an appreciation of, and a better understanding of other people.
2. To study the literature, philosophy, history, culture, and mores of people of other countries through the medium of their own language.
3. To give those who are linguistically minded and enjoy translating an opportunity to pursue this interest.

These aims postulate two types of interest in foreign languages: interest in the people and their literature, and interest in the language itself. Relatively few persons of the total secondary-school population are linguistically minded, that is, derive pleasure in the abstract study of language. A greater number are interested in the people and their literature, and, in order to pursue this interest, may develop a secondary interest in the language as a means to an end. The great majority have no interest or merely a passing interest in any of these phases. If toleration of other people and a better understanding of international relationships are desired, they can be developed through the medium of world history taught in English. If there are certain literary selections written in other languages which teachers believe should be read, they can be pursued through the medium of their English translations. It is quite true that literature loses much when translated, but it is better to read a novel or poem effectively in English than to stumble through it in another language.

The average high-school pupil, after pursuing two years or more of a foreign language, is still handicapped in getting meanings from foreign words. The content is usually secondary to the translation. A language must be pursued for many years before one has reached the point known as *transformation*, that is, a facility in reading a foreign language so great that it is no longer necessary to go through the medium of English to get a meaning from foreign words.

Foreign languages do make a contribution to the worthy use of leisure, but few pupils ever engage in much reading in foreign languages purely for their own pleasure and benefit. Part of this is due to the type of material selected by teachers. Much of the material chosen would not have been read for pleasure even if written in English. The exploratory value should not be overlooked, for a study of a foreign language is the best basis for determining aptitude and discovering interests in that field.

Incidental Aims of Foreign Languages.—The incidental aims claimed for foreign languages are legion. Many teachers stress them as though they were primary, being prompted no doubt by an overzealousness in defending their subject.

Foremost of these is the transfer of training value, which was explained by the two now discredited doctrines of formal discipline and the faculty theory. There is transfer of training, both negative and positive, derived from a study of foreign languages, but this is best explained on the basis of identical elements and not that languages have any peculiar potent powers of developing the intellect so it will function in any capacity. The only recognized transfer is to other languages, and the values usually claimed are for English. Studies reveal that for those of high intelligence (I.Q.) study of foreign languages does bring an improvement in English; for those of average I.Q., there are no measurable changes, and for those of low intelligence, the study of foreign languages even inhibits processes in English.[1]

Another reason advanced for teaching modern foreign languages is that the pupils may at some time or another visit a foreign country and would find their knowledge of the language helpful. The weaknesses of this argument are or should be obvious. Few of the 7,000,000 youths in American high schools ever travel abroad, and for those who do the knowledge of the language gained years before is either inadequate or forgotten, and the chances are they will travel in more than one country so a knowledge of one language only would be of little benefit.

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[1] O. H. Werner, "The Influence of the Study of Modern Foreign Languages on the Development of Desirable Abilities in English," Studies in Modern Language Teaching, Vol. 17, pp. 97–145, The Macmillan Company, New York, 1930.

The college-entrance requirement of two years of Latin has been defended on the ground that it is an indirect means of selecting capable students. Studies of the predictive value of various subjects for college success show that foreign languages do not determine success any better than English, mathematics, or science, and little better than the social studies.[1] Latin required for medicine and law is of an entirely different vocabulary from that found in Caesar, Cicero, or Virgil, and lawyers claim that the legal terms derived from Latin may be learned in a few hours of concentrated study.

Spanish has been introduced in the curriculum in many places on the grounds that pupils might want to go to Mexico or South America for commercial purposes. Few pupils will ever do this, and if they do the Spanish learned in high school would probably not be understood by the people visited.

Vocationally, languages are necessary for interpreters and foreign diplomats, but the knowledge of high-school languages would never suffice for either, and these are occupations few will elect as a life career.

These incidental reasons are not sufficient grounds for including foreign languages in the curriculum, and if they had no other values they should not be included.

Principles of Foreign-language Instruction in Secondary Schools.—From the foregoing discussion of the aims of foreign languages in the high school, the following principles may be derived:

1. Foreign languages should be elective subjects.
2. Each course should be so organized that credit and value can be given for one year of work in order that those who do not reveal aptitude and interest may pursue other subjects without loss.
3. If a pupil reveals a lack of interest and aptitude in his first year of a foreign language, he should not be permitted to pursue it a second year.
4. Foreign language study should be coordinated as much as possible with other subjects of the curriculum, such as history, English, art, and music.

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[1] See Table 17, Chap. V.

5. The American plan of teaching foreign languages is based on the Europeans' schools in which a select few pursue languages for from four to nine years, usually six days a week, and often two hours a day, while the average American pupil spends about two years, five days a week for about 34 to 35 weeks. Therefore, the emphasis should be placed on the reading of interesting stories and poems, with the primary aim on enjoyment, pleasure, and understanding. Reading for thought and meaning should be primary, rather than memorizing vocabularies and drilling on conjugations. The translation of sentences, paragraphs, and entire stories should replace the translation of words.[1]

6. Pupils should be encouraged to read in the fields of their own major interests rather than pursue the classics. To do this, the high-school library should contain a wide variety of foreign-language books on the level of the pupil's abilities.

7. Quoting from Arndt, "When the efforts of teachers of foreign languages are bent to inculcating in students a comprehension of foreign cultures rather than a mastery of grammar, their contribution to American education will no longer be questioned, and America will derive richer benefits from foreign cultures for the teaching of them will make these materials more accessible to our future culture builders."[1]

8. It is doubtful if pupils who are weak in English should be permitted to enroll in a foreign language. Granted that, if properly taught, some improvement in English might be gained from the study of a foreign language, far more will be gained if the instruction is placed directly on English. As a general rule, besides foreign languages helping much in English, save for a few word derivations, a knowledge of English grammar is usually deemed necessary for one to learn a foreign language. This is especially true of languages whose word order is different from English.

ENGLISH

The majority of all high schools offer four years of general or composite English. Three or four of these units are usually required either for graduation or for college entrance. In the twelfth grade, several separate courses in English are offered which may be elected or substituted for one of the regular English courses. These are journalism, dramatics, public speaking, and business English. Those courses have social and personal, as well as vocational value.

Journalism.—The schools which offer instruction in journalism give it in one of three places: as a part of the regular English courses, as an extracurricular activity, or as a special course. All or two of these methods may be employed in the same school.

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[1] C. O. Arndt, Grammar or Culture? *School and Society,* 47 (June, 1938), pp. 794–796.

Journalism is a special form or type of writing or composition. It is centered about the collecting, organizing, and reporting of current happenings, the description of an event, and the interpretation of activities. If there is no incentive for pupils to engage in journalistic writing, other than an assignment in an English class, they will not be challenged to do their best work. If there are school publications they offer a practical purpose for writing.

The usual publication is the school paper. In smaller schools it is mimeographed or printed in the local newspaper. The pupils who take an active part in the work are usually members of the journalism club which is sponsored by the English teacher. In larger schools, the paper is printed and is often published by a separately organized class with a journalism teacher.

The school paper should never be considered as an extracurricular activity. It should be a vital part of the English courses or a part of a separately organized course. The experience the entire staff gets from meeting people through interviews, getting better acquainted with members of the faculty, studying newspapers, editing, following news leads, and the actual writing done for the paper has a permanent value to the pupils not only in their schoolwork but throughout life. The school paper also offers an outlet for creative writing, for expressing student opinions, interpreting the school to the public, and in creating a school spirit.

Other publications of the school in which pupils may take an active part are the school magazine, the annual, and the handbook. If only one of these can be afforded, the school paper is to be preferred, and the least valuable is the handbook.[1]

If there is a separate class in journalism it should be open to any pupil who has completed the required number of units in regular English courses. If a staff is appointed to the school paper, only those who have ability in writing should be members. A poor writer will be a liability, and if he has literary ambitions he can submit manuscripts without being a member of the paper staff.

Dramatics.—Many excellent works of literature were written in the form of drama, which was not written to be read either silently or orally, but to be enacted. The full benefit and pleasure from drama cannot be obtained unless it is enacted.

Youth enjoys acting. Pretending, acting, and living in a make-believe world are activities of childhood and the tendency, although in a more mature form, continues through adolescence. Drama is a form of interpretative reading enjoyed by people throughout life, and is a phase of public speaking which makes effective use of the entire body, voice, and one's language. The concomitant development of these is a factor in developing personality.

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[1] A. E. Cross and Elizabeth Carney, "Teaching English in High Schools," pp. 310*ff*., The Macmillan Company, New York, 1939.

Dramatics in the high school does not consist merely in selecting one play and giving it as a public performance each year by a class or entire student body, but is a regular part of courses in English. Each drama that is studied in class should be read aloud by various members taking the parts of characters. After the play has been read and understood, parts or scenes of it should be enacted. The exact lines are not necessary so long as the characters feel their parts and portray the meaning. Selections of other forms of literature may be dramatized also.

Public Speaking.—Whether pupils will ever have occasion to engage in any form of public speaking or not, instruction in speech will be valuable in any form of oral expression. A great number of pupils will have occasion to speak publicly, either formally or informally. The occasion may be a speech of thanks, an address of welcome, the presentation of an award, medal, scholarship, or diploma, the making of a motion, the nomination of a candidate, or the expression of an opinion on some subject. Those of a formal nature requiring preparation will not be encountered by so many pupils.

The old form of school public speaking was in the form of declamations, orations, and recitations given at literary societies or on Friday afternoons. Along with the passing of these forms of speaking went the older forms of dramatic gestures and bombastic words, and in their place came the debate and extemporaneous speech. In many states, state or regional contests are sponsored in public speaking.

Whether public-speaking instruction is organized separately or is made a part of English courses, and incidentally a part of other courses, all pupils should have frequent opportunities to engage in the following types of activities:

1. To read prose, poetry, and drama to an audience of fellow pupils and visitors.
2. To recite memorized selections.
3. To make brief, informal talks, including the telling of stories, explaining something, and arguing for or against a proposition or persuading an audience to accept or reject some line of thought or some proposition.[1]

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[1] *Ibid.*, pp. 136–137.

Frequent opportunities should be given in these activities in all classes and related activities. In clubs, open forums, general assemblies, dramatics, and on special programs for patrons or in the observance of some event such as Armistice Day, pupils should be encouraged to think on their feet in front of an audience. Public speaking also includes taking part, either as chairman or member, in a business meeting in which parliamentary procedures are followed.

FINE ARTS AND MUSIC

Art in the core curriculum should be of a general type which will be of value to all pupils regardless of their vocation. Elective courses in art should be of a specialized nature designed for those with special talents and aptitudes. The chief difference between the general and specialized courses in art and music is in the shift in emphasis from the appreciation and consumer objectives to the development of skills necessary for production. This does not mean that the development of aesthetic appreciation should be neglected, but that the two phases, performance and appreciation, should be developed concomitantly.

The Objectives of Special Courses in Art and Music.—There are three general objectives of all art courses which represent three divisions of more specific aims. They are: (1) the social objectives, (2) the vocational objectives, and (3) the leisure-time objectives.[1]

The general courses for all pupils stress the social objectives; the special courses, the vocational and leisure-time objectives. All pupils who have special talents in artistic fields should develop them for leisure-time activities. Those who display a high degree of aptitude should consider them as vocational possibilities. It is much easier to be successful in the nonart types of vocations with an average amount of aptitude than it is in the arts. It requires a high degree of artistic ability to be more than a mediocre success vocationally; but as a leisure-time activity one can find a high degree of satisfaction with less ability.

Activities in the Fine Arts.—No definite prescription can be made in advance for elective courses in the fine arts. The types of activities will vary not only in different localities, but also from year to year in the same school. Although class instruction is practiced, the majority of the work will be of an individual nature. Each individual should be permitted to pursue activities along the line of his major interests and abilities.

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[1] William G. Whitford, "An Introduction to Art Education," p. 19, D. Appleton-Century Company, Inc., New York, 1937.

Group instruction, or a consideration of those elements which furnish a common background of all art, are concerned with art appreciation and basic elements of all art. Art appreciation as a group activity involves the viewing, study, and criticism of art productions such as paintings, photographic prints, etchings, sketches, vases, statues, and productions in wood, metal, leather, cloth, and plastics. Often the work viewed will be productions of the class, or traveling exhibits or materials in art galleries and museums. History of art and comparative art may be studied as a group.

Basic elements of all art, or the elements of which all art is composed, are line, form, tone, color, texture, and their composition according to various principles of arrangement and color harmony. This is true of the fine arts, industrial arts, or ordinary art in the home.[1]

For individual activities a wide variety of activities should be provided. The most common types of activities are:[2]

1. Drawing:
    - *a.* Artistic.
    - *b.* Descriptive or informational.
    - *c.* Instrumental.
2. Painting.
3. Design.
4. Modeling.

These activities were judged by art teachers to have considerable value in meeting the demands of pupils in these subject fields: the home, clothing design, city or town beautification, self-expression, industrial art, commercial art, publishing, fine arts, and cultural pursuits.

Elective Music Courses.—The activities which are typical of general music courses or those which meet the needs of the majority of the student body are: singing, music reading, and listening. For those who reveal a special talent and interest in more specialized and intensive consideration in certain aspects of music, the types of activities which are typical are:

1. *Instrumental Groups.*—Instrumental groups include orchestras, bands, fife and drum corps, ensemble groups (string, woodwind, brass, and mixed), smaller groups, and piano duos and ensembles.

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[1] *Ibid.*, p. 89.

[2] *Ibid.*, p. 92.

These group activities are often offered as extra activities which meet during the activity periods or after school.

2. *Vocal Organizations.*—Vocal organizations include glee clubs, choirs, madrigal singers, and vocal ensembles, such as trios, quartets, sextets, octets, and the like.

3. *Clubs.*—Many types of clubs are organized by those drawn together by a common interest in music. These clubs further the study of music either in the acquisition of musical knowledge, the development of skills, or furthering musical appreciation. Such clubs go under various names as the music-study club, the opera club, the symphony club, the folk music club, the folk-dance club, and the Mozart club.

4. *Operettas.*—Operettas should be selected of such a type that the selections will be valuable for the entire school to learn. The operetta is an excellent method of combining music with drama and of advertising the school, and of integrating the activities of various clubs in the high school. Glee, choral, orchestra, dramatic, dance, costume, electric, art, shop, print, and press clubs may all cooperate.[1]

The school assembly affords an opportunity for musical organizations and clubs to perform, and also provides a place for the entire student body to engage in group singing.

Principles of Music Education.—A summary of principles of music education has been given by Mursell in the Thirty-fifth Yearbook of the National Society for the Study of Education.[2] The principles, in outline, are:

1. The music program is an organized opportunity for esthetic experience.
    a. Music education should provide for increasing awareness, interest, and insight regarding music.
    b. Music education should give the pupil a vehicle of universal emotional expression.
2. The music program is an organized opportunity for social experience.
    a. School music experiences have great value for the general social development and adjustment of the child.

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[1] Lilla Belle Pitts, "Typical Musical Activities of the School," Chap. V, pp. 45–49, Thirty-fifth Yearbook of the National Society for the Study of Education, Part II, "Music Education," Public School Publishing Company, Bloomington, Ill., 1936.

[2] James L. Mursell, "Principles of Music Education," Chap. I, pp. 3–16, Thirty-fifth Yearbook of the National Society for the Study of Education, Part II, "Music Education," Public School Publishing Company, Bloomington, Ill., 1936. Quoted by permission of the Society.

   b. Many musical mental skills are notably subject to social facilitation.
3. The development of technical mastery has a necessary place in music education.
   a. Every skill, mental and motor, should be learned for the sake of its expressive use.
   b. All technical skills are acquired best and most rapidly in connection with musical problems and not through schemes of formal drills.
   c. The teaching of the various techniques should be associated closely with growth in musical insight.
4. The acquisition of knowledge about music has a proper and necessary place in music education. In terms of activities music should promote, the principles are:
   a. Music is a pursuit available in a variety of significant social situations.
      (1) Music is an important agency for the enrichment of home life.
      (2) The music program should have definite outcomes in the Church and the Sunday school.
      (3) The music program should be planned for definite outcomes in secular community music.
   b. Music is a pursuit open to most persons.
   c. Music activities that will transfer to social use should be fostered.

The most characteristic and basic aim of music, as stated by Mursell, is as follows: "The music program should aim at the promoting of active and intelligent musical amateurism."[1] Music taught from this point of view places emphasis upon consumption and production for avocational rather than vocational pursuits. It should also be taught so there will be carryover value to out-of-school activities either in individual or group performances.

Summary.—Although individual differences are not great enough to preclude group instruction, they are great enough that consideration should be given to them. Methods of providing for differences require variations in either time, content, or the methods and techniques of instruction. The usual tendency is to permit all pupils to pursue a grade a year, thus holding the total time constant, and to vary the content and method. Carrying extra loads is a phase of varying the time, since the extra time gained in doing regular work more rapidly is devoted to additional subjects.

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[1] *Ibid.*, p. 10.

Regardless of what else is varied, the teacher's methods must be of an individual nature. Sectioning classes on any basis to produce greater homogeneity will not be effective unless techniques are adapted to the group being instructed.

The secondary school is concerned with both decreasing and increasing differences. In developing certain concepts and appreciations which should be a part of our common culture, and in moral traits, all should be made nearer alike if possible. In special aptitudes and talents, differences should be accentuated and each pupil developed along different lines. Thus all will engage in a body of common activities, and others will elect special courses of either an academic or vocational nature.

Electives should contribute to the general objectives of secondary education, should be continuations of or outgrowths of subjects in the core curriculum, and selected in accordance with pupils, interests, needs, and capacities. Subjects which should be included in secondary-school curriculums as electives are science, mathematics, English, foreign languages, fine arts, and music. Vocational subjects in the fields of home art, industrial education, business education, and agriculture, which are also elective subjects, will be treated in the next chapter.

The number of electives offered in any school will depend upon the school's size and facilities. The specific courses offered will depend upon the pupils and their needs and interests.

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CHAPTER XII

PROVIDING FOR INDIVIDUAL DIFFERENCES THROUGH ELECTIVES: VOCATIONAL

All subjects in the curriculums of secondary schools may be studied from three points of view or for three purposes: utility in everyday life, for culture, and for vocational efficiency. These are not mutually exclusive for one may study a subject for all three purposes. The core curriculum is based largely on utilitarian and social values. It has cultural value, and it may lead to or furnish a background for a vocation. All courses may be vocational if they aid one in discovering his own interests and abilities, or give factual information, knowledge, skills, habits, and attitudes needed or useful in a vocation which is later pursued. Even the college preparatory curriculum is a vocational course leading to the professions.

David Snedden places such importance on training for productive work in our present state of civilization that he considers sound vocational training as the foundation of man's cultural, religious, political, cooperative, and family life. Men struggling toward civilization have always given more attention to education which fits for vocations than all other types put together, partially through public schools, and mostly through an efficient apprenticeship system.[1]

Definition of Vocational Education.—Vocational education may be broadly or narrowly defined. In its broadest sense, it includes any experiences or activities in which pupils might engage which will aid them in becoming more efficient in any type of vocational work. In this sense, practically every subject in the curriculum makes a contribution, for in them are learned many facts, skills, and attitudes fundamental to broad fields of work. This definition recognizes that there is transfer of training from one situation to another, which proceeds more rapidly if it is taught and in proportion to the number of similar elements between different types of work. It is also based on the fact that there are common or similar elements between different types of vocations, especially those belonging to the same general division, as agricultural, clerical, industrial, or professional.

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[1] David Snedden, "American High Schools and Vocational Schools in 1960." pp. 72*ff*., Teachers College, Columbia University, New York, 1931.

The other definition is narrow and defines vocational education as specific training in a particular vocation. This definition denies all transfer of training and insists that if training is to be effective it must be intimately related to life situations.[1]

The former broad definition was instrumental in introducing manual training into the secondary schools during the latter half of the nineteenth century as a formal discipline subject. The proponents believed that the faculty theory was the explanation of the transfer of training, as, for example, if one learned to use a wood plane the skill acquired would aid him in operating any and all types of tools. Modern psychologists have definitely shown the existence of transfer but no longer hold to the faculty theory as an explanation.

Aid given to secondary schools by the federal government for vocational training defines vocational training in its narrowest sense. In its Statement of Policies for the Administration of Vocational Education it is defined as follows:

> To the extent that it is subsidized by the Federal Government under the Vocational Education Acts, vocational education has reference to training for useful employment. It may be given to boys and girls who, having selected a vocation, desire preparation for entering it as trained workers. . . . [The rest of the definition refers to those already in employment, and adults.][2]

This definition stresses the term "having selected a vocation," which means that the training is not vocational until one is selected, and that he must select a single, narrowly defined occupation rather than a broad group of vocations.[3] In the present discussion, the broad definition of vocational education will be employed.

THE PLACE OF VOCATIONAL EDUCATION IN THE SECONDARY SCHOOL

The place of vocational education in the secondary school is not definitely established. It is one of the cardinal principles of secondary education that the school shall provide vocational education but this does not answer such questions as: How much vocational training should be offered? In what grade should vocational training begin? How much emphasis should be placed upon the acquisition of specific skills as contrasted with a general training basic to all vocations?

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[1] For a more complete discussion of these two definitions of vocational education see John Dale Russell, Vocational Education, *Staff Study* 8, prepared for the Advisory Committee on Education, Government Printing Office, Washington, D.C., 1938, pp. 9–14.

[2] Statement of Policies for the Administration of Vocational Education, *U.S. Office of Education, Vocational Education Bulletin* 1, 1937, p. 6.

[3] Russell, *op. cit.*, p. 14.

There are many differences of opinion concerning the answers to these questions. Specific vocational training for vocations other than the professions was not a problem until after the high school became more democratic and the population increased. The influx into the high schools of millions of youth who were not intending to attend college and who would enter industry immediately following graduation called for a modification of the curriculum to meet their needs. Likewise, the increased number brought into the school many who were unable to profit by the traditional academic curriculum. Vocational education has been suggested for these groups.

Many educators believed that the inclusion in the curriculum of vocational education was the answer to the problem of what to do with those not possessing ability in the academic and classical curriculum, and that although they lacked a high degree of mental ability they could be trained manually. Recent developments have tended to change this older idea. The training of those of a lower level of ability will be discussed later in this chapter.

Many taxpayers, not aware of the manifold task of the high school, expect that after four years of training their children should be specifically fitted for some particular vocation. As an example of this, a business executive, in an address which was published in the local papers, claimed that thousands of business concerns were idle because they did not have trained workers to fill positions, mainly because the high schools did not train workers for them, and that, therefore, the high school's failure was largely responsible for the large amount of unemployment found today (1939)! This criticism, of course, is absurd, but it reveals the attitude of some parents and taxpayers. Many educators, recognizing this demand, have prophesied that if the high school does not offer more vocational education, the taxpayers will cease to support it.

On the other hand, the complexity of present-day society demands a core curriculum of constants which almost fills the curriculum. The former subjects, such as the social studies, science, mathematics, and English have been expanded to include many new topics as consumer education, safety education, conservation of natural resources, and, as shown in a previous chapter, all pupils need courses in physical education, music, art, home arts, and industrial arts. These requirements are forcing specialized subjects of a vocational nature into the last two years of the high school, or even the junior college, and the belief is growing that the general high school should not attempt any particular vocational training, especially the development of specific vocational skills.

What, then, is the mission of the high school with respect to vocational efficiency? This mission is fourfold:

1. To provide exploration and guidance.
2. To develop vocational flexibility.
3. To give a sound basis or general training which is valuable in any vocation.
4. To give to those, who, in all probability, will enter industry immediately after graduation some training which will enable them to advance more rapidly in certain fields of work after entering them.

These functions of vocational training *definitely preclude the early selection of a particular vocation and the giving of specific training in it to pupils in the secondary school.* A discussion of these four phases follows.

Providing for Exploration and Guidance.—The discovery of individual interests and capacities, the testing of aptitudes, the prediction of probable vocational success in various fields, and the guidance and direction of pupils toward worthy goals most congruous with their potentialities is one of the functions of secondary education, and the first step in developing vocational efficiency. This phase consists in making the pupil acquainted with himself; the next is that of acquainting him with the world of work, industry, and commerce. No elaboration will be given here of how these functions are accomplished, for a separate chapter is devoted to them.

Developing Vocational Flexibility.—If society never changed, if there were no advances in the technological world, if pupils were born, lived, and died in the same place, if our methods and techniques of providing basic needs remained static, then there would be no need for vocational flexibility. It is a pathetic situation when one trains specifically for some vocation and then, through circumstances beyond his control, cannot pursue it. If the high school were to give specific vocational training, such cases would result by the millions. Pupils must be taught to adapt themselves to a changing world, rather than live in a stagnant one.

Giving a Foundation for Any Vocation.—The subject matter selected for instructional purposes in secondary schools should be of value in any vocation, for with the right foundation the specific skills in most occupations can and should be learned by the apprenticeship method in actual situations. Pretraining on the secondary-school level in the skilled trades is not very effective and takes time which should be devoted to larger aspects of social and economic training. The specific skills required in the skilled trades are numerous, and require some time to be learned. Those involved in manual labor, due to the division of labor in modern industry, are few, specific, and may be learned after a position has been secured in a few days or a few weeks at the most.

Many elements are common to a great variety of occupations, or are highly desirable in all of them, and at the same time have personal, social, and cultural value as well. An examination of the general curriculum of a modern high school reveals that the following outcomes are possible of achievement by all pupils pursuing it. These are either necessary or highly desirable in any vocation:

1. A reasonable command of English, reading, writing, and speaking.
2. A knowledge of and skill in the fundamental principles of arithmetic.
3. A knowledge and understanding of laws and principles of elementary science.
4. A healthy mind and body.
5. Desirable social attitudes.
6. An understanding and appreciation of the importance and purpose of social and economic institutions.
7. High moral standards and ethical character.
8. Habits of industry, thrift, promptness, and resourcefulness.
9. An ability to adapt oneself to a changing environment.
10. A knowledge of the world of work, its importance, and the economic dependence of man.
11. A respect for honest labor regardless of its social and economic level.

There are, of course, a few of these which are not essential to certain vocations, such as ditch digging, garbage collecting, and shoe shining, but they are all of a very low socioeconomic level. An examination of these outcomes will reveal that they are just as valuable in general citizenship, home membership, and in one's social, religious, political, and economic life, as they are in his vocational life. It is reasonable to expect that there is some work or some place in society for every individual (barring the mental defectives), and that every individual can and should acquire the outcomes included in this list as basic needs in all occupations.

Vocational Training for Those Who Will Enter Industry after Graduation.—Some specific vocational knowledge and skills are basic to broad fields of work, that is, the skills are not peculiar to one occupation, but to a class of occupations or vocations. For example, agriculture is a class name for hundreds of occupations, universally spread over the United States. The same is true of home economics, industrial arts, and business education. Although training in these fields is limited in its universality, it is, nevertheless, sufficiently broad to justify giving training along these lines without doing violence to the principles previously established. Furthermore these fields, viz., home economics, industrial arts, business education, and agriculture, have social and personal value as well as vocational, which is an additional reason why they can be included. They contribute to the exploratory function of secondary education, help provide for individual differences, and contribute to worthy home membership, leisure-time activities, citizenship, and command of fundamental principles.

Vocational training of a specific job character, however, is not a commendable method of developing an understanding of economic life, or effective participation in it, for the routine performance of skills does not further these understandings. In its true and broader meaning it is not education but training. The latter places the emphasis on the learning of a few definite facts and the acquisition of specific skills to the neglect of concepts, generalizations, attitudes, and appreciations essential to complete living in present-day society.

It has been estimated that the percentage of jobs requiring very little or no preliminary training constitutes 75 to 95 per cent of all occupations, and that 95 per cent of those requiring skilled training are trained on the job by foremen. These facts indicate clearly that the high schools need not be concerned with specific vocational training in a strict sense.[1]

Where Should Specific Vocational Training Be Given?—For centuries civilized man has given productive workers some form of training, either in a system of schools for the professions, or through apprenticeships controlled by guilds, tribal customs, unions, and corporations. America has never had more than fragments of a good apprenticeship system. The great majority of America's skilled workers did not receive their training through vocational schools or an efficient apprenticeship system, but learned their skills through self-instruction by the trial and error method, resulting often in insecurity, a poor foundation, and inefficiency. It is safe to say that a majority of those out of employment during the depression years of 1932 and following were not trained for any type of work. A few skilled vocational groups, such as printers, plumbers, silversmiths, locomotive engineers, and barbers, have well-organized apprenticeship systems, and farms have been the training ground for the majority of farmers. There are many vocational schools of a private nature, such as the commercial schools, and many of a mechanical nature, and recently there has been a tendency to establish public vocational schools on the secondary level.

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[1] Homer P. Rainey, The Needs of American Youth: What the American Youth Commission Has Found, "Practical Values in Educational Research," p. 177, American Educational Research Association, Washington, D.C., 1938.

The present trend is for educators and leaders to look to the public school as the most logical and efficient agency for the general training of productive workers. To many persons vocational training is not considered so desirable, for one's cultural, religious, political, fellowship, and family life are all more attractive than his vocational life; and of the various vocations those of a professional nature seem to be more attractive. This partly accounts for the reluctance of secondary schools to include training for vocations other than the professions which were not even considered vocational in nature. The acceptance of this aim was hastened through popular demands rather than a desire on the part of educators.

After its first acceptance, many poor practices were followed:

1. The schools guided those of low ability into vocational courses.
2. Training in specific skills for particular vocations was given.
3. Pupils were trained in fields in which they could not secure employment after graduation.

Federal Aid for Vocational Education.—During the years 1900 to 1910, as the United States continued to grow industrially, certain organizations such as the National Association of Manufacturers, the National Metal Trades Association, certain agricultural organizations, the American Federation of Labor, and the National Education Association urged that the facilities for vocational training in public schools be extended and training be provided under public auspices.[1]

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[1] Russell, *op. cit.*, p. 16.

The Smith-Hughes Act of 1917 and subsequent acts of Congress were outgrowths of this movement. The Smith-Hughes Act provided for the appropriation to the various states the sum of $1,660,000, and increased gradually each year until 1926, when $7,167,000 would be appropriated annually. These funds were to be used to reimburse the states to the extent of, but not to exceed one-half, the salaries of teachers, supervisors, and directors of vocational education in agriculture, trades, and industries. Home economics, being defined as a vocational subject, was considered a part of the trades and industries program, and was not to receive more than 20 per cent of this allotment.[1]

In 1929 Congress passed the George-Reed Act authorizing additional funds to supplement the Smith-Hughes Act which extended to 1934. The George-Ellzey Act authorized appropriations amounting to $3,000,000 annually until 1937. Anticipating the expiration of the George-Ellzey Act, in 1936, the George-Deen Act was passed which increased the annual appropriations from $7,302,000 to $21,785,000. Besides the increased funds, the fields of distributive occupations and public service were added to the list of vocations worthy of federal aid, and the requirement that the states must match the federal funds during the years immediately following the enactment of the law were removed.[2]

Evaluation of the Federal Aid Program.—Federal aid for vocational education was originally planned as a cooperative enterprise between the state and federal government; but in actual practice the federal control has operated to shape very definitely the vocational programs of the states, and in some cases has resulted in a dictated program. The existing situation could be greatly improved by giving more local and state initiative, by making the vocational training an integral part of the regular school system, and by removing the control over the preparation of teachers.[3] These changes would remove the dual control over the schools and eliminate an almost parallel system between general and vocational training.

The federal government under the present system is fostering a narrow, specific type of training by giving aid to a special group of teachers. There is no reason why the two types should not be merged, and the federal funds given to promote all secondary schools, rather than being definitely marked and designated for certain purposes.

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[1] *Ibid.*, p. 17.

[2] *Ibid.*, pp. 21–22.

[3] *Ibid.*, p. 235.

The method of apportioning funds to the different states on the basis of matching federal by state funds is a good stimulus, but it creates greater rather than less inequality for it is the poorer rural districts which need the most help, but which are least able to raise funds for matching.[1]

A further summary of the Advisory Committee's evaluation of federal participation in vocational training includes the following:

1. A limited concept of vocational education has been promoted.
2. In some of the financially less able communities funds have been diverted from general education.
3. A creation of a dual school system has been encouraged.
4. The difficulties of administering local schools have been increased.
5. An attitude of separateness has developed among those in the field of vocational education.
6. Guidance and placement services have been inadequately provided.
7. Enrollment has been permitted without consideration of the potential demand for new workers in the trade for which it is given.
8. Apprenticeship should be encouraged as a method of vocational education.
9. The service of the schools in supplying vocational education for occupations of the trade and industrial types should be chiefly to cultivate in the pupils a broad range of basic abilities of value in a large related group of occupations.
10. Federal appropriations for vocational education should not be increased until there has been a relatively generous provision of funds for general education.[2]
11. Estimates indicate that less than 1 per cent of those entering farming have had four years of college work in agriculture, which indicates that most of the graduates enter related positions, and that most of the farmers must be trained through the secondary school period or through adult educational agencies; but at the same time 65 per cent of the high schools in rural areas do not offer the program of vocational education in agriculture because it is too expensive for them to meet government standards. This percentage includes about 10,000 rural high schools which cannot avail themselves of the reimbursed program.[3]

Training for Various Levels of Ability.—As shown in a previous chapter, individual differences among pupils in mental ability, aptitudes, and interests are quite varied. To meet these differences the curriculum should be enriched through appropriate classroom techniques and through electives. The core curriculum of constants prescribed for all pupils is needed by all, and pupils of all levels of ability found in secondary schools may profit by these activities.

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[1] *Ibid.*, pp. 236–237.

[2] *Ibid.*, pp. 237–240.

[3] *Ibid.*, pp. 150–151.

To assume that those who could not profit by the academic curriculum should be given manual and vocational training is assuming that these types of courses require less ability, or a different type of ability, which is contrary to the usual findings. With few exceptions, abilities are rather uniform, so that if one is unable to profit by the academic subjects, he usually does little better on vocational subjects. Those of inferior ability are not likely to become skilled craftsmen. The implications of these statements are that vocational subjects should not be made the dumping ground for pupils of low abilities, and that after their interests and capabilities have been determined they should be guided into the selection of electives commensurate with them.

The Attitude of Labor toward Prevocational Training on a Secondary-school Level.—According to a survey made by Broach and Parker for the Advisory Committee on Vocational Education,[1] labor formerly sponsored vocational education in public schools as opposed to such training in private schools organized for profit. Recently, after several years of experience with the product of vocational schools, labor has adapted a new attitude. A few quotations from the report will reveal this attitude with respect to courses in industrial arts and trades, but not toward home economics and agriculture, for industry has had little contact with home arts and agriculture.

> As a method of recruitment for the skilled trades, the all-day trade school at the high-school level is well nigh a failure. It operates without definition of responsibility either to industry or to adult labor already engaged in the trades. . . .
>
> The skills of the manual trades can be learned only through doing. The technical knowledge necessary to the all-around modern craftsman must be acquired in definite integration to the training on the job.[2]

Various groups representing labor have expressed similar views. There seems to be general agreement among them that the vocational training received in high school is inadequate, that apprentices should not be trained in public schools, and that employers prefer those who have had academic training either along with their vocational training, or those whose preparation has all been along academic lines.[1]

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[1] *Ibid.*, p. 246.

[2] *Ibid.*, p. 260.

There are two main reasons for these criticisms:

1. Schools on the secondary level cannot train mechanics, engineers, or any skilled tradesmen. Too often teachers have led pupils to believe they could train them into finished products, giving the pupil an erroneous idea of his own status when graduated.
2. Even if the schools could produce skilled tradesmen, it is doubtful if they should, for it would require too early specialization and special training at the expense of broad general training in economics, in aspects of the employment situation, modern labor relationships, collective bargaining, and various other social factors affecting their welfare. Likewise, the full time of the secondary-school years is needed for pupils to explore their own potentialities, and learn something about the world of work.

Principles of Vocational Education.—In the light of the previous discussion several principles may be stated which may serve as a basis for building a program meeting the vocational needs of all youth:

1. All high-school time should be devoted to general and academic subjects. About two-thirds of these should be required and the rest elective. The electives may be selected on the basis of providing some general vocational training.
2. All strictly vocational training should be given by the apprenticeship system after youth has entered industry.
3. All preemployment training of a specific nature should gradually be placed later and later in the curriculum until finally it is eliminated entirely. The United States is gradually removing youth from industry and placing them in schools, so that one may reasonably anticipate that soon a general secondary education will be given to all youth before vocational training begins.
4. The selection of elective subjects for the curriculum which are of a vocational nature should stress the development of knowledge and judgment rather than skills. The training should be so general that all outcomes will be widely applicable to a variety of occupations, and these should be of a type the pupils will have an opportunity to enter. Only those occupations which have a high social value should be considered. Following these principles, courses in agriculture, home arts, industrial arts, and business education may be offered as electives.

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[1] *Ibid.*, pp. 247–263.

5. If vocational subjects are so selected and so organized, they will have social, economic, and personal value as well as vocational. They will further the general aims of secondary education, and registrations and credits should not be restricted in vocational subjects any more than in other elective subjects.

HOME ECONOMICS

Home economics is offered in the public schools either as a federally reimbursed or nonreimbursed program in approximately two-thirds of all schools. The variations among the states is great. In California it was offered in all but 13 small schools affecting only 600 girls, whereas in Kentucky, Florida, and New Mexico it was offered in only one-fourth of the schools.[1] As shown in Table 47 the percentage of pupils pursuing general home economics decreased from 1928 to 1934, but the number of pupils almost doubled. The majority are not enrolled in federally aided schools for only 15 per cent of the schools receive such aid for home economics. In more than half the states a minimum enrollment is required before a department may be established and approved by the state departments.[2] This is another indication of the handicaps of the small high schools.

Those schools receiving federal aid are required to maintain two entirely different programs, one under the George-Deen Act, and the other under the Smith-Hughes Act, as these carry different requirements. This further complicates the bringing of home economics instruction to all pupils.[2] There seems to be a great need for expanding this course so it will reach all girls in all secondary schools of the nation.

Content of the Home-economics Courses.—The recent trends in home economics reveals a tendency to integrate the general with the vocational types of courses, and to make the aims more liberal. The following types of activities are suggested by the Office of Education to be included in home-economics courses:

1. Provision of food for the family.
2. Selection, care, and construction of clothing.
3. Care and guidance of children.
4. Selection, furnishing, and care of the house.
5. Selection and use of home equipment.
6. Maintenance of health.

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[1] *Ibid.*, p. 137.

[2] *Ibid.*, p. 138.

7. Home care of the sick.
8. Consumer buying.
9. Management of all material and human resources available to home.
10. Maintenance of satisfactory relationships.
11. Application of the arts and sciences.[1]

The Objectives of Home Economics.—Questionnaire returns from home-economic supervisors in public schools, heads of departments in colleges and universities, and state supervisors of home economics to the Advisory Committee on Education indicated that among these groups there was little unanimity as to the objectives of home economics in secondary schools. The objectives which the largest number accepted tended toward intellectual understanding more than the acquisition of manipulative skills.[2] There seems to be a need for a greater clarification of the aims of home economics in the secondary school. The chief aim is that of developing intelligent participation in family life.

AGRICULTURE

Instruction in agriculture has shown only a slight increase in the number of schools offering it, and also in the number of pupils pursuing it from 1928 to 1934, (Table 45). Since the Smith-Hughes Act of 1917, there was a decided increase in pupils taking agriculture. Many schools offer a course in agriculture without receiving federal aid. These courses are not as vocational in character as the federally aided ones.[3]

Agriculture is less universally applicable for high-school pupils than either home economics or industrial arts. It is a false idea that rural youth should all receive instruction in agriculture, for many have no desire or aptitude for farming, and likewise it is an erroneous assumption that no urban boys would be interested in this work. Agriculture courses as generally taught have little appeal or functional value to boys other than those who have a strong inclination toward farming or some phase of leadership work in agriculture. For this reason, it should be a pure elective offered in the ninth to twelfth grades.

If agriculture is taught from a nonvocational standpoint, it possesses possibilities of enriching the lives of millions of youth who do not desire to pursue agriculture as a vocation. The course, on this basis, should help create a better understanding and more toleration between rural and urban people, present problems unique to rural people, and give urban youth some idea of where their food comes from. From a more practical side, the course should contribute to more knowledge of business, trade, barter, and marketing, and for those in small towns, practical knowledge which would be of value in operating small gardens and caring for domestic animals.

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[1] Statement of Policies for the Administration of Vocational Education, *U.S. Office of Education, Vocational Education Bulletin* 1, 1937, p. 61.

[2] *Ibid.*, p. 141.

[3] *Ibid.*, p. 144.

Table 45

Registrations in Vocational Subjects and Number of Schools Offering Vocational Courses from 1928 to 1934*

Subject	Number of schools offering		Percentage of pupils enrolled	
	1928	1934	1928	1934
General home economics	6,801	9,828	16.5	11.2
Industrial arts	4,512	4,670	12.5	6.3
General agriculture	4,676	4,793	3.7	2.8

* Carl A. Jessen, Registrations in Vocational Subjects, *School Life*, **23** (November, 1937), p. 86.

One of the chief concepts which should be stressed is that *the farm is a place to live and make a living, not a place to make money.* Such a concept would tend to discourage any pupil whose chief interest was in money-making from electing farming as a vocation.

Content of Agriculture Courses.—Since the depression of the early 1930's there has been a shift in emphasis in agricultural instruction from production to problems of marketing, buying, soil conservation, land management, and economics. Over and above the acquisition of knowledge concerning agricultural methods, instruction is now given in how to market farm produce. Less emphasis is placed on developing certain specific skills which may never be used, or, if needed, may be acquired later.

Future Farmers of America and 4-H Clubs.—Future Farmers of America, commonly referred to as the FFA, is a national organization of pupils and former pupils enrolled in vocational agriculture courses. In 1938, when ten years old, it enrolled 150,000 members. It is sponsored by local teachers, state boards for vocational education, and the U.S. Office of Education. Membership is not open to all pupils enrolled in agriculture classes, but depends upon the degree of advancement and achievement. Boys may retain membership for three years after leaving school. The clubs emphasize recreational and educational activities.[1]

An older organization sponsored by the Cooperative Agriculture Extension Service of the Department of Agriculture is the 4-H club. Its membership in 1937 was 1,192,385 boys and girls.[2]

These two organizations have been to some extent competing with each other. The FFA was established because teachers of vocational agriculture are not authorized to cooperate in the leadership of the 4-H clubs, particularly those including boys under 14 years of age, for the Smith-Hughes Act set a minimum limit of 14 for participation in the program. A final reason was a desire on the part of those pursuing specialized courses in agriculture to have a national organization of their own.[3]

The Advisory Committee was not wholly in favor of the organization of the Future Farmers of America. Some of the objections to it are that it violates accepted principles of club work in high schools. It is a national organization rather than local, and there is danger of its being used for purposes of propaganda and publicity. The development of alumni chapters might constitute a source of interference with local administration of the schools.[4]

INDUSTRIAL ARTS

The aims and purposes of industrial arts courses of a more intensive nature which are offered as electives are not essentially different from those of courses required of all pupils. Additional courses merely offer an opportunity for further study of the same nature. The courses should be offered in the latter part of the secondary period, or in the senior high school.

Edgerton places emphasis on the prevocational aims of industrial arts for those who will leave school early and enter industry with a minimum of training, and as subjects for those who can profit more through mechanical types of work than though academic. He gives four aims for the more intensive courses:

1. To assist in the final selection of a promising industrial career.
2. To extend the tryout activity to meet the preparatory vocational needs of pupils who must leave school with a minimum of preparation.

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[1] Statement of Policies for the Administration of Vocational Education, *U.S. Office of Education, Vocational Education Bulletin* 1, 1937, p. 146.

[2] *Ibid*, pp. 146–147.

[3] *Ibid.*, p. 147.

[4] *Ibid.*, p. 148.

3. To provide supplementary training through a sequence of coordinated shopwork and related schoolwork (mathematics, science, drawing).
4. To offer greater opportunities for commercial experiences through cooperation with outside activities.

The more intensive industrial courses are intended for two major purposes:

1. To meet the need of boys with mechanical ability who might be better able to profit by industrial work than by the regular courses of study in the school program.
2. To assist those who, for various reasons, are to remain only a short time in school and who need short, intensive courses of training before entering industry.[1]

If these aims and purposes are fulfilled, it must be assumed that pupils have had preliminary exploratory opportunities and have some idea of their own abilities through a guidance program.

Proffitt stresses the fact that the industrial-arts courses should contribute to the general educational objectives, and as electives in the senior high school help provide a period of advancement toward chosen goals. Industrial-arts courses do this by:

1. Developing an appreciation of design and quality in manufactured goods.
2. Providing practice in the use of materials and tools for recreation and home utilization.
3. Sampling a variety of industries, through advanced school courses, in preparation for entrance as a beginner into the skilled trades or into college courses in engineering and architecture.[2]

Content of the Industrial-arts Courses.—Industrial-arts courses can no longer be justified if the pupils merely make traditional objects out of wood and take them home as they did a few decades ago. Such activities have a place, but only in interpreting the culture of the past. Progressive-arts courses should help interpret a changing industrial order and present economic life. American ideals of material culture call for comfort, efficiency, and beauty, and an understanding and appreciation of the use, construction, and consumption of the many material things in life has been called

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[1] A. H. Edgerton, Industrial Arts Education, in "Objectives and Problems of Vocational Education," p. 291, ed. by Edwin A. Lee, McGraw-Hill Book Company, Inc., New York, 1938.

[2] Maris M. Proffitt, chairman, Industrial Arts, Its Interpretation in American Schools, *U.S. Office of Education Bulletin* 34, 1937, p. 61.

"consumer literacy," which is a chief outcome to be developed through industrial arts.[1]

Industrial-arts courses should provide for the following types of experiences:

1. Activities in as many industries as school shops and laboratories will permit.
2. Use of typical and important industrial tools.
3. Experience in production methods.
4. Experience in handicrafts.
5. Acquaintance with the organization and operation of industrial and commercial enterprises.
6. Study of safe and hygienic ways of doing all types of work.
7. Practice in identifying the more important methods employed by industry.
8. Selection and use of some of the common products of industry.
9. Utilization of salvaged materials or products for project work.
10. Interpretation of the sources, principles, and applications of power, such as steam, water, internal combustion, and electricity.
11. Study of the origins and effects of significant inventions.
12. Study of materials from source to completed object.
13. Study of vocational opportunities, living conditions, remuneration of workers, controversial questions pertaining to capital, labor, and technology.[2]

In these activities the development of skill in some specific trade, as automobile mechanics, is not stressed or suggested save as such activities might be incidental to the whole program.

Registrations in Industrial Arts.—The number of schools offering industrial-arts courses increased from 1928 to 1934. The number of pupils enrolled has increased, but not so rapidly as the increased school population. The percentage of pupils enrolled in 1934 was 6.3 and in 1928 was 12.5 per cent (Table 45). Home economics ranks first in registrations, followed by industrial arts, and agriculture.

BUSINESS EDUCATION

Business education, formerly known as commercial education, is rapidly changing complexion. No longer is it considered primarily a vocational course designed for those who will enter industry or the vocational world immediately after graduation, or as a "dumping ground" for all the misfits in other curriculums, or a course from which businessmen could secure clerical helpers trained at public expense. The name has changed, additional objectives have been added, the old ones revised, the course expanded to meet present conditions, and consequently the business curriculum is gaining prestige which gives it a place and status on a par with other curriculums of the secondary school. Partly as a result of these changes, and as a cause of the changes, business education is rapidly expanding as shown by the increased number of schools offering it and the large number of pupils pursuing courses in this field.

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[1] *Ibid.*, pp. 8–9.

[2] *Ibid.*, pp. 9–10.

Past Status of Business Education.—Commercial education is by no means a new part of our educational program. As early as 1635, Plymouth Colony engaged a Mr. Morton to teach children to read, write, and to teach cost accounting. Business subjects, such as arithmetic, accounts, and history of commerce were taught in Franklin's academy, but as the Latin grammar school declined, and the academy turned its attention from the "great aim and real business of living" and became a college-preparatory school, interest in business education declined.

The general public was slow to accept the principle that the high school should engage in vocational training, for the apprenticeship system was believed to be the best,[1] and the high school during its first 50 years was mainly a college-preparatory school. Commercial training was received in private commercial colleges, and did not receive much attention in public schools until about 1880 to 1890 when the high school started on its period of rapid growth. Commercial subjects found their way into the high school through popular demand, and the curriculum was borrowed from private business colleges. The aims were strictly vocational and the courses consisted mainly of shorthand, bookkeeping, and typewriting. In the past there were several factors which caused commercial subjects to be popular. The general public was demanding more practical subjects in the high school, but teachers were slow to accept them, for they clung to the traditional classical curriculum. College-preparatory pupils viewed the commercial pupils condescendingly, and teachers viewed the course as a good place to dispose of those who could not profit by the academic curriculum. Finally, the reluctance of colleges to accept commercial subjects for entrance was an impediment to their progress.

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[1] B. R. Haynes and Harry P. Jackson, "A History of Business Education in the United States," p. 11, Southwestern Publishing Company, Cincinnati, 1935.

The demand for clerical help and stenographers, together with a demand by the parents for more vocational training, increased the popularity of commercial subjects, and to make them still more attractive, the curriculum was expanded and the aims changed. Part of this change was due to the fact that many who completed the commercial course could not secure employment and since the courses were designed purely for vocational purposes, the time was considered wasted. Teachers became conscious of the fact that although the high school, if it is to maintain its goal of providing secondary education for the masses, must give more vocational training, it must not lose sight of its mission in society, namely to prepare individuals for social efficiency, rather than for individualistic vocational efficiency. The school does not exist solely, and perhaps not primarily, for the benefit of those who are being educated; certainly much of its mission is to benefit society as a whole.[1]

Present Status of Business Education.—The present trends in registration in business subjects and in the number of schools offering such subjects shows an increased popularity (Fig. 30). The four business subjects offered most frequently in high schools and attracting the greatest number of pupils are typewriting, bookkeeping, shorthand, and elementary business training; but the most rapidly growing subject is the latter which increased from 3.0 to 5.7 per cent of the entire high-school enrollment from 1928 to 1934. It is estimated that in 1935 over 15,000 high schools were offering business subjects, and that over 1,700,000 pupils are enrolled in such courses.[2] Besides the four most popular courses, high schools are offering economic geography, business arithmetic, salesmanship, business correspondence, economics, and business law.

Aims of Business Education.—As mentioned previously, the aims of business education have broadened. They have become more social and less individualistic, and *education* is being substituted for *training*. Training is limited to the learning of definite basic facts, and to the acquisition of basic skills needed for vocational efficiency. Education includes these, but aims further by including the development of concepts, ability to generalize, and the development of desirable social attitudes, ideals, appreciations, and respects. Education includes all phases of one's development; training only one. Besides securing specific training for definite vocations, such as taking dictation in shorthand, operating a type-writer, and keeping books, vocational education aims at teaching pupils to become flexible in their vocational capabilities, to become familiar with and able to think about economic and business problems, to gain an understanding and appreciation of economic institutions, and to develop economic intelligence. Even those subjects such as bookkeeping, typewriting, and shorthand, formerly thought and taught to have vocational values only, are now widely recognized and taught for such other values as worthy home membership and personal and social efficiency.

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[1] Harl R. Douglass, Expanding Business Education to Meet Present Conditions, *The Business Education World*, 18 (September, 1938), pp. 19–22.

[2] Haynes and Jackson, *op. cit.*, pp. 50–52.

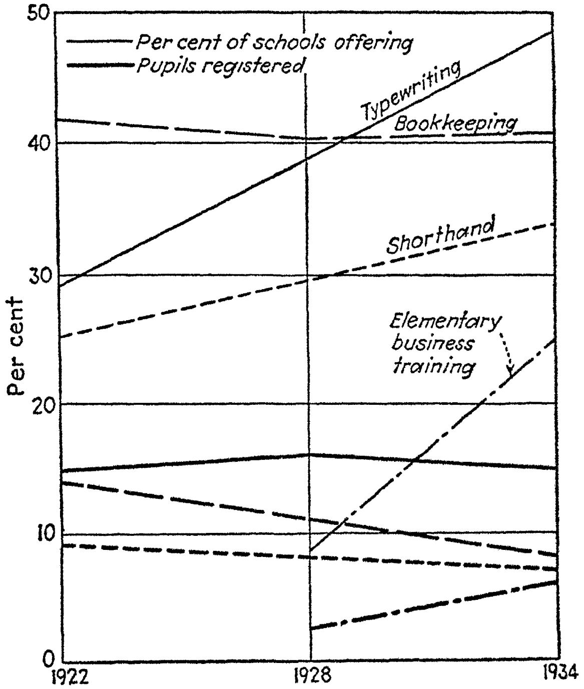

FIG. 30.—Trends in registration in commercial subjects from 1922 to 1934. [*Carl A. Jessen, Registrations in Commercial Subjects, School Life*, **22** *(February,* 1927), *p.* 169.]

Formal statements of the general aims of business education which appear in publications and courses of study are:

1. To prepare youth to meet their personal needs as consumers.
2. To provide youth with a background of information which will enable them to perform their citizenship duties more effectively.
3. To train youth for a vocation.[1]

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[1] James Grant, Administration of Commerce Courses in High Schools and Colleges, *Modern Business Education,* **5** (March, 1939), p. 4.

Scope of Business Education Courses.—As in other secondary-school curriculums, business education cannot, nor does it try or expect to, give a complete preparation for a career. Business-education courses have the same vocational value as other courses with a more specific vocational aim. These values are:

1. To provide exploration by giving pupils an opportunity to discover interests, capacities, and vocational opportunities.
2. To provide preliminary preparation for a business career that will enable one to have greater advantages for promotion and better prospects for ultimate success than will those who enter business careers unaided by such training.
3. To provide for vocational flexibility.

The social and personal values are derived from instruction in principles and practices of everyday business relationships that will aid one in conducting his own business activities in a manner satisfactory to himself and to society.

Every individual has dealings with or is benefited by economic institutions, is dependent upon trade and commerce, engages in barter and trade to secure the necessities of life, and comes in contact with economic institutions and agencies almost daily, such as banks, wholesale and retail stores, insurance companies, the stock market, the "farmer's" market, and the media for exchange such as money, checks, bonds, stocks, mortgages, and produce. Knowledge of these institutions and skill in performing economic activities provides a background for many vocations and is essential from a personal and civic point of view. For these reasons, the courses are justified in public schools.

A few general trends and principles of organizing and administering business-education courses are, according to Douglass:

1. The expansion of the aims and curricular offerings in business education to include social and personal aims is evidence that the high school should not have any curriculums designed primarily for specific vocational training. It also reveals that a social-studies background is essential in business education, as it is in any and all vocational education; therefore,
2. Courses of a socioeconomic study should occupy at least 6 of the 16 units required for graduation, and should involve all the phases of the business-education curriculums save those involving specific skills in typewriting and bookkeeping which, because of their personal value, should be offered in the ninth and tenth grades as electives, so the abilities can be used during high school and skill maintained by practice.

3. Technical vocational subjects, including typewriting, shorthand, business correspondence, economic and business law, and salesmanship, should be postponed to the upper two years of high school and the junior college.[1]

4. These proposals preclude any high-school curriculums designed primarily for the training of any specific types of business career, as retail sales-people, stenographers and secretaries, or bookkeepers and clerical workers, save in the last two years, or eleventh and twelfth grades. The basic reasons for this are given at the beginning of this chapter. Vocational flexibility cannot be developed by specific vocational training; the choice of a vocation should be delayed as long as possible; the high school cannot fulfill all of its legitimate objectives and functions and devote too much time to specific vocational training; and finally, a well-constructed general curriculum of constants will serve the needs of everyone in any vocation. To a great extent industry is, and should be, closed to all youth under 18, which is a good argument for delaying vocational choices until the final years in high school.

5. If business-education subjects are elected during the ninth and tenth grades, a review course can be offered in the latter half of the senior year in order to bring pupils' efficiency up to a maximum before entering industry.

6. Little justifiable social value can be claimed for shorthand. Usually only the writer can read it, and even he can't if it gets cold. It has little value for taking notes in class, for it develops a tendency to take down all that is said without thought or evaluation, and if not transcribed at once, cannot be read when needed later.

7. No pupil should be permitted to receive credit for more than four units of technical vocational subjects.

These proposals, although contrary to the philosophy and principles of many vocational curriculum builders, are not entirely incongruous with their practices, and certainly are not antagonistic with the trends. If one views the curriculum as a whole, and sees the need of social, scientific, mathematical, linguistic, and physical instruction, together with training in aesthetic appreciation, emotional stability, ethical character, recreation, and worthy use of leisure, the curriculum is already full, and, as mentioned before, all these are basic to any vocation.

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CHAPTER XIII

TRENDS IN ORGANIZING AND REORGANIZING SECONDARY-SCHOOL CURRICULUMS: COMPARATIVE

In preceding chapters the authors presented their views as to what should be included in the content of the high-school curriculum in order that the school might meet the needs of adolescents in modern society. The selection of these activities was based upon the goals established by society for the secondary school to achieve, the purposes of secondary education, and the peculiar characteristics of adolescents. These activities were organized into a core curriculum of common experience and elective activities of an academic and vocational nature.

After the content of the curriculum has been selected the next problem is that of organizing the activities for presentation, and the determination of techniques of presenting them so that learning may proceed more rapidly. The three large curricular phases, selection, organization, and presentation of materials, cannot be treated independently, for each one is based upon and depends upon the other. When one is reorganized or modified the others must be also.

In order to determine the trends in organizing and reorganizing secondary-school curriculums, it is necessary to compare present curriculums with those of the past. It is difficult even with a knowledge of the genetic development of our present curriculum in mind to determine what the future content and organization will be. Limiting the comparison to schools of the United States prevents the influx of new ideas from other countries and encourages provincialism. There are many desirable features of schools of other countries which the United States might borrow—ideas which would be unknown if their curriculums were not studied. Also, before one can reorganize the curriculum, it is necessary for him to know how it was and is organized.

In the present chapter a comparison will be made between typical high-school curriculums of the present and those of the Latin grammar school, the academy, and schools of several other countries.

TYPICAL HIGH-SCHOOL CURRICULUMS OF THE PRESENT

It is almost impossible to typify the high-school curriculums of the various high schools of the United States, for they are better characterized by variety than by uniformity. It is easier to generalize by describing the typical pupil with respect to courses pursued than the typical high school with respect to the courses offered. In the smaller high schools there is usually a single curriculum composed mostly of subjects all pupils must pursue in order to acquire sufficient credits to graduate. The general pattern usually includes four years of English, three or four of the social studies, two or three of science, two of mathematics, and a foreign language. In larger

TABLE 46

PERCENTAGE OF SECONDARY-SCHOOL PUPILS PURSUING CERTAIN STUDIES IN PUBLIC HIGH SCHOOLS IN 1928 AND 1934

Subject	1928*	1934†	Subject	1928	1934
English	93.09	90.54‡	Algebra I	35.2	22.7
Latin	22.00	16.04	Advanced algebra	8.2	
French	14.02	10.87	Both		30.4
Spanish	9.44	6.23	Plane geometry	19.8	12.4
German	1.84	2.37	Plane and solid geometry		17.1
			General mathematics	5.45	2.35
General science	17.50	17.75			
Biology	13.58	14.60	Typewriting	15.2	16.7
Chemistry	7.07	7.56	Shorthand	8.7	9.0
Physics	6.85	6.27	Bookkeeping	10.7	9.9
Problems of democracy	1.04	3.46	Elementary business training	3.0	6.1
Economics	5.08	4.93			
Civil government	6.65	5.97	Home economics (general)	16.5	16.7
Community government	13.39	10.36	Industrial arts (general)	12.5	14.0
Sociology	2.66	2.48	Agriculture (general)	3.7	3.6
American history	17.86	17.39	Drawing and art	18.62	15.33
Modern and medieval history	11.30	6.19	Vocal music	21.00	18.3
Ancient history	10.42	6.76	Instrumental music	4.56	3.94
World history	6.06	11.92	All music	26.04	25.5
			Physical education	15.0	50.6

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* Statistics of Public High Schools, 1927–28, *U.S. Office of Education Bulletin* 35, 1929, pp. 102–105.

† Carl A. Jensen, Offerings and Registrations in High School Subjects, *U.S. Office of Education Bulletin* 6, 1938, pp. 28–85.

‡ Does not include those enrolled in special courses such as journalism, public speaking, commercial English, and dramatics. Some schools do not require English in the senior year.

schools these subjects are also offered, but in addition they offer a large number of specialized rather than general courses such as botany, zoology, and electricity. Although the combined number of courses offered in all high schools of the United States is over 200, many of these are electives pursued by a small number of pupils.

Subjects taken by a typical pupil in the seventh and eighth grades are:[1]

Subject	Number of Years
English	2
Social studies	2
Mathematics	1 or 2
Physical education	2
Science	1
Music	1
Drawing	1
Home economics (girls)	1
General shop (boys)	1

Subjects taken during any time left are:

Subject	Number of Years
Commercial subjects	1
Foreign languages	1
Agriculture	1

Subjects taken by a typical pupil in the last four years of high school:

Subject	Units or Years
English	3 units, perhaps 4
Social studies (usually American history, foreign history, and problems of government, social and economic)	2½ or 3 units
Science	2 units
Commercial subjects	2 units
Mathematics	2 units, perhaps 1
Home economics (girls) (Girls may also have one year of industrial arts)	1 unit
General shop (boys)	1 year
Physical education	2 years
Music	1 year

Electives

Foreign language, 2 years if elected at all.

Drawing and art are more likely to be omitted than foreign languages.

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[1] Carl A. Jessen, Offerings and Registrations in High-school Subjects, 1933–34, *U.S. Office of Education Bulletin* 6, 1938, pp. 26–27.

This typical pupil program does not indicate either the subjects which are required or the typical curriculum of high schools, but it does indicate that, regardless of what other subjects are offered, more pupils pursue these than others and more high schools offer these than the others. The registrations in the most popular subjects are shown in Table 46, which also is a close indication of the offerings of various schools, and by comparing the 1934 percentages with those of 1928 trends can be noted.

It is not infrequent that in the small high school pupils have few or even no opportunities to elect any subject, for all are required for graduation. In such cases, the typical pupil program represents the typical offerings. In larger schools, even if there are opportunities for electives, many of the typical pupil subjects are required, while others are those which seem to be the most valuable to pupils educationally for they are the ones most frequently elected.

TYPICAL HIGH-SCHOOL CURRICULUMS COMPARED WITH THOSE OF THE LATIN GRAMMAR SCHOOL AND THE ACADEMY

The typical pupil program of the high school differs markedly from that of its two predecessors, the Latin grammar school and the academy. Contrasted with a Latin grammar school especially the limited curriculum of a small high school is broad, related to present-day society, and built upon the needs of adolescent personalities.

Curriculum of the Latin Grammar School.—Although the Latin grammar school was often spoken of as a single-subject school, since Latin was the chief subject, such others as ethics, history, and literature were taught through the medium of Latin. Pupils were also expected to read the Bible, attend church, and report on the sermons. Writing was sometimes taught in the grammar schools, as well as English, Greek, and Hebrew. The *Grammar* of Lily and the *Colloquies* of Corderius were common texts although both of them had been written before 1550.

College-entrance requirements at that time consisted of a thorough knowledge of Latin. Harvard required that one read classical Latin at sight, speak true Latin in verse and prose, and decline verbs and nouns in Greek. The requirement to speak Latin at Harvard was dropped in 1734. In Yale, Princeton, King's College (later Columbia College), and William and Mary College, the requirements were similar in requiring a knowledge of Latin. Thus, Latin was essential as a secondary-school subject in meeting college-entrance requirements.

By 1750, new and more practical subjects were finding their way into the curriculum. Commercial subjects, such as records, business practices, accounting, English, composition, and mathematics, were introduced in spite of the fact that the school did not want new subjects. They were included by demands of the people.

The school declined chiefly because of its narrow curriculum and narrow aims. It served only one class of people, and in one respect only—to prepare boys for college. America was beginning to break away from the influence of Europe, and education for girls was being demanded along with a more practical curriculum. Some of the parents of the children claimed, "We are too busy fighting Indians to be reading Greek and Latin." Gradually English became the medium of expression in colleges and Latin was not needed, although colleges clung to the requirement.

The decline of the school which started in the beginning of the eighteenth century and was about complete by 1800 was one of the effects of the growth of democratic ideals in America with respect to universal education. This ideal had been voiced in the Massachusetts Law of 1647, but the masses of people had not progressed as rapidly as their leaders. Few persons availed themselves of the opportunity to go to college after finishing the Latin grammar schools and the course was thus criticized because they received no practical benefits from it. Those entering Harvard came largely from a few towns: Cambridge, Boston, Roxbury, and Charleston. Many towns did not send a single student to college from 1644 to 1700, while in some places they trained boys for college when none was accessible.

The influence of the Latin grammar school on present-day curriculums is seen in the strong position Latin holds today. As shown in Table 46, this influence is declining in favor of more practical subjects. In 1928, 22 per cent of all high-school pupils pursued Latin; in 1934 this dropped to 16.04 per cent.

Decline of the Latin School.—By the close of the sixteenth century, the humanistic revival had spent itself, and the new learning in secondary education was exhausted in formal and meaningless routine, devoted to the study of Latin grammar, Latin speech, and narrow reading in Latin.[1] The unrest came because of the extreme formalism and the fact that Latin did not advance learning. There was also a movement to ennoble the vernacular which had been despised by scholars. French was accepted as a language of scholars by the middle of the seventeenth century. The schools were criticized on the grounds that they were neglecting matters of the everyday world, and were stressing memory and not judgment.

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[1] I. L. Kandel, "History of Secondary Education," pp. 128*ff*., Houghton Mifflin Company, Boston, 1930.

The Latin school was in line for further criticism because of the development of the scientific movement which was gaining strength in the sixteenth century and had much vigor in the next century. By the seventeenth century scientific apparatus and principles had developed until one could engage in experimentation rather than speculation. Although the universities and the church were reluctant to accept the movement, chairs in science were started in Oxford in 1619 and Cambridge in 1663, scientific societies sprang up, and science along with more practical subjects was advocated for secondary schools instead of formal Latin.

It was not until the middle of the seventeenth century that new schools including science appeared. Academies started in England, but were short-lived. The "humanistic revival" which had ushered in the Latin schools was being replaced by the scientific movement. Two new schools were started as a result of this movement: the *Realschule*, or the "Economic-Mathematical Real School" in Germany (1747), and Franklin's academy in America (1751). These are the only two schools which lived from the scientific period. At the same time the Latin grammar school was prolonged in America because of the colleges which required Latin for entrance.

The need and desire for the type of courses offered in the academy had been felt for some time. The Latin school never was in favor with a large group in the population and there was pressure to have a school which would teach the practical subjects. By 1732 the Grammar School of the City of New York taught a great range of subjects including Latin, writing, mathematics, geography, bookkeeping, and navigation. Franklin's academy was probably the first to bear the name, but it was not the first to have such a curriculum. Many private schools had long offered courses quite similar to that proposed by Franklin.[1]

Franklin's Academy.—An excellent example of a school which was established by an outstanding leader, but which was not supported because it was too far ahead of its time, is found in Franklin's academy which was established at Philadelphia in 1751. He wished to place in the curriculum only modern subjects, but even the public-spirited men who lent their financial support were so imbued with the traditional curriculum of the Latin school that they thwarted his plans. They insisted on including learned languages, while Franklin wished to teach everything "useful and ornamental." The curriculum included writing, drawing, arithmetic and accounts, geometry, astronomy, English declamation, history, morality, religion, politics, ancient and modern languages, gardening, and agriculture.

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[1] R. F. Seybolt, Source Studies in American Colonial Education, The Private School, *College of Education Bulletin* 28, University of Illinois, 1925, pp. 100–107.

To establish and support the school, subscriptions were obtained and the city made donations. The appeal was made on the grounds that children should be educated at home rather than abroad, that the academy would meet the needs of public officers, since foreigners who were ignorant of American laws and customs were coming to America in vast numbers, and that it would prepare teachers for rural schools. The proposals for the school were completed in 1749, and the academy opened in 1751 with three schools—Latin, English, and Mathematics, each under its own master. Since from the start conditions favored the Latin master, it was not long until there was little similarity to Franklin's original plan. English did not receive the important place intended for it and was ousted, being called "vulgar" by the Latinists. Although it failed in its original purpose, it was the forerunner of the academy movement. His academy later became the University of Pennsylvania.

The Phillips' Academies.—Samuel Phillips, a judge, state senator, and lieutenant governor of Massachusetts, became the chief patron of an academy in Andover, Mass., which opened in 1778, and another in Exeter, N.H., in 1781. Phillips's relatives supported the schools. The aim of his academies was the "great aim and real business of living," and the principal object was to promote true piety and virtue. The curriculum was broader than college-entrance requirements, although it served that function. These schools represent the first real beginning of the academy movement.

From their beginning the academies were established for girls who had no place in the Latin grammar school. Before this time they attended writing school two days a week, and those who received a secondary education usually had a private tutor or went abroad. Girls were not admitted to the universities.

The curriculum was broad, including almost all subjects which would meet the economic and social needs of the times, mainly because it was not bound by college-entrance requirements. Various occupational groups received training in them, such as surveyors, teachers, merchants, and tradesmen. In order to attract students, instruction was offered in any subject for which there was a demand. There were about 75 subjects taught in the academies of the state of New York in 1837,[1] including various branches of mathematics, science, English, social studies, surveying, philosophy, law, ancient and modern languages, theology, business subjects, music, navigation, embroidery, painting, and the principles of teaching. From 1787 to 1870, 149 new subjects appeared in the academies of New York.[2]

In contrast to the Latin grammar school whose curriculum paralleled that of the elementary school, the academy built upon the curriculum of the elementary school. It received pupils from the elementary school and gave them a secondary education which fitted them for participation in the affairs of daily life or for entrance into college.

The aims were broad. As stated in the charter for the Phillips's academies, the aim was "the great aim and real business of living." They also served as college-preparatory schools for those desiring to attend college, and as training schools for teachers.

The course was either three or four years in length. The classical curriculum was usually four years in length, while the English curriculum was three.[3]

There were some student activities in the academies which enriched the curriculum to some extent. Literary societies, debates, and plays were stressed, and, in order to encourage support, the public was often presented with lectures, festivals, school exhibits, literary programs, and plays. In those academies operated by churches, religious societies were quite common and all students received instruction in the Bible.

Extent and Popularity of the Academies.—The curriculum and aims of the academies were such a marked departure from those of the Latin grammar school that they account in part for their greater popularity, which attested to the fact that a classical-college-preparatory curriculum had made very little appeal to the masses of people. The colleges were rapidly expanding their entrance requirements from Latin and Greek to the addition of geography

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[1] Paul Monroe, "Principles of Secondary Education," p. 58, The Macmillan Company, New York, 1916.

[2] E. P. Cubberley, "Public Education in the United States," p. 187, Houghton Mifflin Company, Boston, 1919.

[3] Kandel, *op. cit.*, p. 399.

(1807), algebra (1820), and geometry in 1844, and ancient history in 1847.[1] Much of their popularity was due to the fact that they made an effort to serve all classes of people and offer any course for which there was a demand. The academy movement reached its height about 1850–60 when there were about 6,000 schools.

Curriculum of the First High Schools.—The curriculum of the first high school, established in Boston in 1821, was based upon an analysis of what might fit one for active life and work whether mercantile or mechanical. It was built upon and was an extension of the elementary school and required that pupils, to be admitted, must be well acquainted with reading, writing, English grammar, and arithmetic "as far as simple proportion."

The school was for boys exclusively, and the term was three years. The curriculum included composition, declamation, logic, literature, algebra, geometry, mensuration, plane geometry, navigation, geography, surveying, natural, moral, and political philosophy, and ancient, modern, and United States history.

Although the high school selected the best features of the Latin grammar school and the academy, before 1910 the curriculum had become formalized with emphasis upon literary and academic subjects with college preparation the chief end in view. The offerings of a typical high school as revealed by the percentage of pupils pursuing various courses followed the pattern shown in Table 47, Latin, algebra, rhetoric, and history were pursued by more pupils than were any other subject. Greek, French, trigonometry, astronomy, chemistry, geology, and psychology were offered by 1895, but they were not very popular. These subjects, with the exception of four sciences, viz., botany, zoology, meteorology, and physiography, included all the subjects recommended by the Committee of Ten for inclusion in the four fundamental curriculums at that time.

By 1898 English literature and civics had appeared and by 1910, Spanish, zoology, botany, agriculture, and domestic economy were reported as offered. General biology, industrial and manual training, drawing, bookkeeping, and vocal music were added to the list in 1915.[2]

In 1922 the offerings in high schools reported to the Office of Education had more than doubled the list reported for 1915, the chief additions being in the fields of social studies, commercial subjects, and industrial arts.

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[1] *Ibid.*

[2] Carl A. Jessen, Offerings and Registrations in High School Subjects, *U S. Office of Education Bulletin* 6, 1938, p. 1.

In 1928, 156 subjects were reported to the United States Office of Education, and by 1934, 206 subjects were being offered in high schools of the United States.[1]

TABLE 47

POPULARITY OF SUBJECTS IN HIGH SCHOOLS FOR THE PERIOD 1890*

Subject	Percentage of Pupils Pursuing
Latin	43 97
German	11 40
Algebra	54.27
Geometry	25.34
Physics	22 77
Physical geography	23 89
Physiology	29 95
Rhetoric	32.05
History	34 33

* Report of the United States Commissioner of Education, 1916, Vol. II, p. 487.

One cannot conclude from the increased number of subjects offered that the curriculum increased proportionately, for many of the subjects reported in 1900 as single subjects, such as history, were subdivided later into many specific courses. It does reveal, however, a great expansion in offerings.

THE CURRICULUMS OF SECONDARY SCHOOLS OF OTHER COUNTRIES COMPARED WITH THAT OF THE HIGH SCHOOL

A single type of school system in the United States is not as desirable perhaps as a variety of types, for that which is best suited to one part of the country would not necessarily meet the needs in another part. Progress is made through experimentation and variation. New ideas and practices can be introduced in the school system and by means of a careful evaluation of the outcomes, and by comparison and contrast with other systems, good and bad elements can be detected and either rejected, retained, or modified. These comparisons should not be limited to the schools of our own country, but should extend to those of others.

The purpose of comparative education is not to judge school systems of other nations, nor should comparisons be made on a good-better-best basis. Similarities and differences should be noted and the systems analyzed and examined, but not necessarily evaluated. We lack universal standards for attempting the latter, and, if judgments are made, one is inclined to use the school of his own country as criteria.

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[1] *Ibid.*, p. 2.

As shown in a previous chapter, the secondary schools of various countries serve different purposes, but even if two nations have accepted the same educational goals a pattern of curricular activities which would achieve them in one country would not necessarily be efficacious in another. Such factors as the character of the people, the geographical location of the country, the topography, climate, the traditions, culture, religion, social standards, wealth, and occupation of the people, together with political and economic relations with other nations, are influential not only in determining the direction of the educational goals and philosophy of the nation, but also in determining the type of curriculum most efficient in achieving them. There is a reciprocal relationship between schools and the political and social order of a nation. Society will determine the type of schools, while at the same time the schools may be instrumental in creating, changing, or perpetuating the social order.

Secondary-school Curriculums of Russia.—The curriculum of the typical secondary school of Russia resembles that of the United States more nearly than does that of any European country. It shows the influence of American ideals.

The curriculum of the secondary schools of the cities is based on that approved by the people's Commissariats of Education of the Republics. A standard curriculum places emphasis upon native language and literature, mathematics, and manual labor. In addition, foreign languages, history, geography, physics, biology, chemistry, music, drawing, physical culture, and military drill are included.[1] In many respects it is similar to a typical course of studies in the high school of the United States.

The curriculum in 1938 included 20 required subjects or "disciplines." As contrasted with the old Russian *gymnasium*, the curriculum omits completely the study of Latin, Greek philosophy, and religious catechism, and stresses science and mathematics. There are as yet no electives being offered and no differentiated courses for special groups.[2]

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[1] A. Pinkevich, "Science and Education in the U.S S.R.," p. 39, G. P. Putnam's Sons, New York, 1935.

[2] Alexander Efron, Current Trends in Soviet Secondary Education, *The Educational Forum*, 3 (March, 1939), pp. 291–292.

For several years during 1920–30, there were many modern and progressive methods used in Russian schools found elsewhere only in experimental schools. Such methods as the project methods, curriculums based on centers of interest, the Dalton plan, and the so-called brigade-laboratory method were tried and have been replaced by more conventional types. The primary schools have now (1934) turned to reading, writing, and arithmetic in an organized way. The former study of labor, nature, and society as former complex approaches in secondary schools have been replaced by the regular subjects of mathematics, science, and foreign language. The new methods were designed to give the students more knowledge of science and less of political grammar. This complex project-laboratory method was given up in 1932. It was claimed this method gave poor results in fundamentals, and trained in an individualistic manner contrary to collectivism. The fundamental unit now is called the "lesson." The lesson includes classroom and after-school experiences. The method employs a definite course of study, textbooks, and formal examinations.[1]

According to Champlin,[2] Russia's conception of education is as sound as it is broad. As contrasted with American schools in which there is a make-believe life, in Russia "education is life, and life is education." All of Russia is full of opportunities to learn. The principles or functions of their national education, as given by Dr. Vem, Russian Director of Higher Education, are:

1. Education is to be integrated with life in theory and practice.
2. The nation's most gifted youth are to be discovered and their abilities developed.
3. The talents of children highly endowed are to be cultivated. One of the rights guaranteed by the National constitution is "education for all and free to every worthy youth."

The public-school system is alike in all parts of Russia. From the ages of 3 to 8, typical children attend a kindergarten or nursery school, alike in essential features. From the age of 8 to 12, they attend the First Grade (elementary school) for four years from which they go to the Second Grade (secondary school) to the age of 15. These two grades of seven years are called "Semiletka" and correspond to the elementary and high-school years in the United

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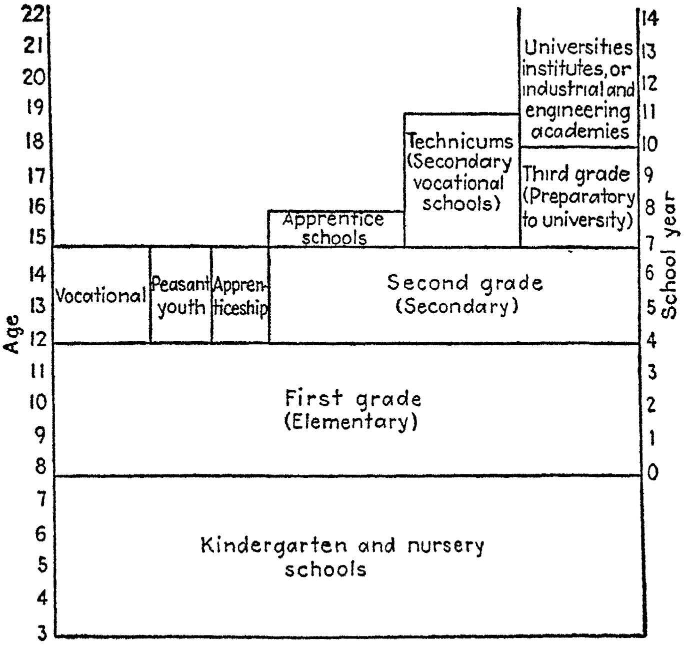
[1] *Ibid.*, p. 291.

[2] Carroll D. Champlin, Russia's Bid for Educational Leadership, *The Educational Forum*, 2 (March, 1938), pp. 291–298.

States. The Third Grade receives pupils at the age of 15 and retains them for three years, or to 19. This division corresponds to our junior college.[1] The four years of primary education followed by six years of secondary, or a ten-year school, is called the "Desiatiletka," Fig. 31.

There are several schools and types of education available, all of which are vocational in character for those who finish the Semiletka but do not continue in the Third Grade. They may attend one of the apprentice schools for a year or less, or enter a secondary vocational high school (technicum) for a period of four years. Those who finish the ten-year school period, or the Desiatiletka, may enter any of the higher educational establishments for a course four or five years in length. They are essentially vocational schools and each has a specific definite function. They are not like the liberal arts colleges in the United States. The main types are the institute, the university, and the industrial or engineering academy, the


Age
22
21
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8
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6
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4
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School year
14
13
12
11
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8
7
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5
4
3
2
1
0
Universities institutes, or industrial and engineering academies
Third grade (Preparatory to university)
Technicums (Secondary vocational schools)
Apprentice schools
Vocational
Peasant youth
Apprenticeship
Second grade (Secondary)
First grade (Elementary)
Kindergarten and nursery schools

FIG. 31.—The Russian school system. (*Drawn from data presented by A. Pinkevich, "Science and Education in the U.S.S.R.," G. P. Putnam's Sons, New York, 1935, p. 19ff.*)

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[1] Pinkevich, *op. cit.*, pp. 19–20.

institutes being the most common. The universities train specialists in philosophy, social and natural sciences, and teachers for these subjects. The others train engineers.[1]

Secondary Education in France.—The traditional type of secondary education in France is strongly classical. For years educational leaders believed in organizing a secondary-school curriculum based on the disciplinary values of subjects rather than on utilitation values. Their views were summarized in the following statement: "Classical culture is the basis of our literature, of our arts, of our history, and of all of our national traditions. It has been the leaven of the genius of France. It is the school of thought that liberates and defines."[2] The modernists opposed these views and have constantly attempted to introduce modern subjects into the curriculum. But regardless of all attempts at various times to change the French ideal of liberal education, she has still clung to it, and has for three centuries. In all the changes which have occurred in the school system the ideal of *culture générale* has not been changed.[3]

In 1899 the Ribot commission, appointed to settle the dispute between the two factions, urged that classical courses should be retained for those who could profit by them, while others should be diverted into modern courses. On the basis of the Commission's report, certain reforms were made in 1902, making a more flexible curriculum and providing for a greater variety of choices in courses. This reform, however, did not settle the question. It was only a compromise, for it still left the modernists and classicists arrayed against each other. The dispute was interrupted by the First World War, and began again after its close.

With the exception of the reform of 1925 which gave students more options in the selection of courses, and the establishment of a common elementary-school system for all up to the ages of eleven and twelve, the school system of France was changed little until the reform of 1937.

Reforms of 1937.—The law of 1937 which further modernized education in France was passed because of the effort of Jean Zay, Minister of Education. The provisions of this law were:

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[1] *Ibid.* pp. 21–22.

[2] I. L. Kandel, "History of Secondary Education," p. 205, Houghton Mifflin Company, Boston, New York, 1930.

[3] I. L. Kandel, Secondary Education, *The Educational Forum*, **3** (May, 1939), p. 471.

Private preparatory schools of all types were abolished, making a common elementary school of seven years the same for all. The entire school system was divided into two divisions called the "first level" and the "secondary level." The third is higher education (see Fig. 32).

The first level is divided into three parts: (1) the elementary school, (2) the raised elementary school, and (3) the continuation school. At the end of the fifth year, candidates for the secondary school and those desiring to continue in the raised school must take the examination for the *certificat d'études primaires élémentaires* taken at the age of 12 by the majority or at 11 plus for those intending to continue the secondary level. The raised elementary school is similar to the vocational school of the United States. It consists of a three-year curriculum of broad academic subjects and offers courses in various vocational fields. The continuation school is obligatory for all students who do not enroll in either the raised primary school or the secondary schools.[1]

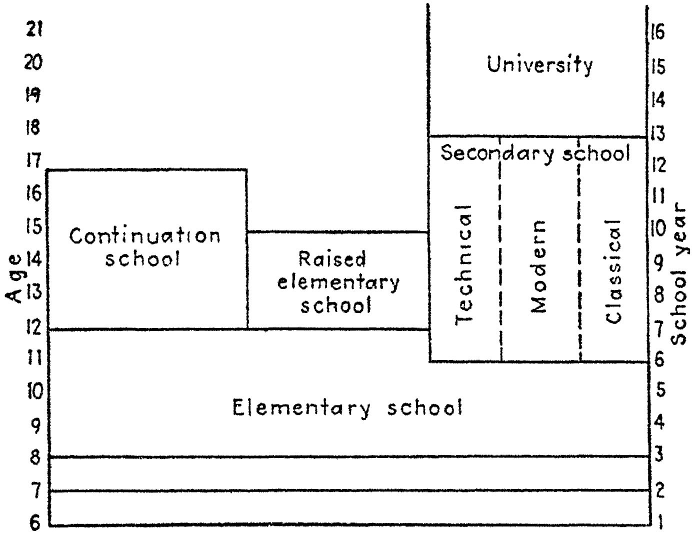

FIG. 32.—The French school system after the reform of 1937. [*Drawn from a description given by H. Nabholz, Reform of Secondary Schools of Germany and France, School and Society,* 47 (*January* 8, 1938), *p.* 56; *also from I. L. Kandel, Secondary Education* (*Education Abroad*), *The Educational Forum,* 3 (*May,* 1939), *pp.* 472–478.]

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[1] H. Nabholz, Reform of the Secondary Schools of Germany and France, *School and Society*, **47** (January 8, 1938), p. 56.

There are two main secondary schools of France, the *lycée* and the *collège*. The *lycées* are maintained by the central government, the latter by the local municipal authorities. The two are alike in curriculums, methods, and teachers, although the *lycées* are fewer in number. These schools are divided into three curriculums: (1) the classical, (2) the modern, and (3) the technical (Fig. 32). The course is seven years in length. All three curriculums consist of a four-year unit leading to the middle examinations, the passage of which gives the *diplome d'État*. In the classical and modern curriculums, there is an advanced unit leading to the *baccalauréat* after a final examination. This is required for admission to universities and normal schools.

The first year is a trial period in which aptitudes are tested in order to prevent a wrong or premature choice between the classical, modern or technical classes. These guidance classes are experimental only and were established in 42 centers in October, 1937. To aid pupils further in locating the course in which they can profit most, pupils are permitted to transfer from one course to another.[1]

Secondary Schools of Germany.—The secondary schools of Germany furnish an example of a parallel system, a classical curriculum, and a system which was taken over by the state to be used as an instrument of indoctrination.

Before the reforms of 1937 and 1938, the German secondary-school system was best typified as a parallel system, that is, various schools were established on the same level which had comparable courses, but were designed for special classes or groups. The three traditional types were the *Gymnasium, Realgymnasium,* and the *Oberrealschule* which were nine-year schools built upon a common elementary school of four years (the *Grundschule*). Each of these schools had six-year counterparts, the *Progymnasium, Realprogymnasium,* and the *Realschule.*

During the Republic two new types of schools were added, the *Deutsche Oberschule,* and the *Aufbauschule,* and various combinations of these which had sprung up experimentally before and after the First World War.[2] According to Wilhelm there were 80 types of schools before the reforms of 1936–38.[3] These various types of schools were developed to meet the needs and educational desires of social groups or organizations. Pupils who entered them pursued the course offered, as contrasted with the French and American systems of entering a school and selecting a course. These schools were entered at the ages of 9 or 10 after a three- or four-year elementary-school training, and once a school was selected, transfer to another was difficult and frequently not practiced.

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[1] I. L. Kandel, Secondary Education, *The Educational Forum*, 3 (May, 1939), p. 473.

[2] *Ibid.*, p. 478.

[3] Theodor Wilhelm, Scholars or Soldiers? *International Educational Review*, 7 (1939), pp. 81–102.

The oldest, and the school with the greatest prestige, was the *Gymnasium*, a school stressing Latin and Greek, through which medium the culture of modern civilization was studied historically. In the *Realgymnasium*, more emphasis was placed on modern languages, mathematics, and science, French and English being the chief modern languages. Neither Greek nor Latin was taught in the *Oberrealschule*, which required modern languages and stressed mathematics and sciences.

Of the two new types of schools developed by the Republic, the *Aufbauschule* and the *Deutsche Oberschule*, the former, a six-year school, was established in small towns to afford an opportunity for gifted children to attain a secondary education under home influence. The curriculum was similar to that of the *Oberrealschule* or the *Deutsche Oberschule*. It more closely resembled the comprehensive high school in the United States than any of the German schools and spread even to cities.

The *Deutsche Oberschule*, nine years in length, was a further attempt to popularize secondary education. The emphasis was on German history and literature, and it recognized the arts, philosophy, economics, law, and religion which was a part of the curriculums of all secondary schools.

After finishing the four-year *Grundschule*, or the common elementary school, those not entering one of the secondary schools attended the *Mittleschule*. This school was six years in length, charged tuition, and, although separate schools were established for boys and girls, there were some coeducational schools established. They offered no foreign language, but offered a general curriculum, and vocational training. The school was not popular, partly because there were a variety of trade schools in which pupils could be trained, and because they did not give their graduates certain privileges granted by the secondary schools. As its name implies, it was a school midway between the *Grundschule* and the secondary school, designed for those wishing a practical education preparing for commerce, agriculture, or intermediate positions in administrative and industrial enterprises.[1]

The Reforms of 1936 to 1938.—The reforms of 1936 to 1938 made two radical changes in the school system: the number of types was reduced to two, and the school period was shortened one year. For several years prior to 1936, the National Socialist Party agitated a redirection of the nine-year secondary school to an eight-year school. The members of this party were more influential in formulating the educational policies of the nation than was the teaching profession. Teachers opposed the eight-year course on the ground that they needed more time in which to prepare students for the rigid leaving examination.[2]

On November 30, 1936, the German Minister of Education issued a decree requiring a twelve-year period of education instead of a thirteen-year period. This was done because the German four-year plan called for army officers and new men in the professions. This meant that the nine-year secondary schools became eight-year schools. Since girls were not so affected, their schools carried on as before.[3] The new system called for four years of elementary education in the *Grundschule*, and an eight-year secondary system composed of two types of schools:

1. The *Hauptform.*—The *Hauptform*, or principal form, is divided into a uniform lower division of five years and an upper one of three years, with two distinct curriculums. In the boys' schools the two courses are the linguistic, and the mathematics and natural science courses. In the girls' schools the corresponding courses are the linguistic and home-economic courses. The school requires two foreign languages, while one is offered as an elective. The required languages are eight years of English and six years of Latin. In the girls' school, French replaces the Latin. These schools resemble the *Deutsche Oberschule.*

2. *Sander Form.*—The *Sander Form*, or special forms, are the *Gymnasium* and the *Aufbauschule.* The *Gymnasium* has only one curriculum, the emphasis being placed on languages. Latin is the principal language, with Greek introduced in the third year and

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[1] Stephen P. Cabot, Secondary Education in Germany, France, England, and Denmark, *Harvard Bulletins in Education* 15, 1930, Harvard University Press, Cambridge, Mass., 7.

[2] A. A. Douglass, Notes on German Secondary Education, *The California Journal of Secondary Education*, **11** (December, 1936), pp. 498–501.

[3] Hans Nabholz, The Reintroduction of the Twelve-year Secondary School Period in Germany, *School and Society*, **46** (April, 1937) pp. 549–550.

English in the sixth. The *Aufbauschule* is a boarding school with a six-year course added to the six year *Volkschule* period. The curriculum requires six years of English and six years of Latin[1] (see Fig. 33). This reform has reduced the number of classes and subjects in the secondary schools and has reduced the period one year.

The common subjects of instruction for all schools are biology, German, history, geography, physical education, and the arts.[2]

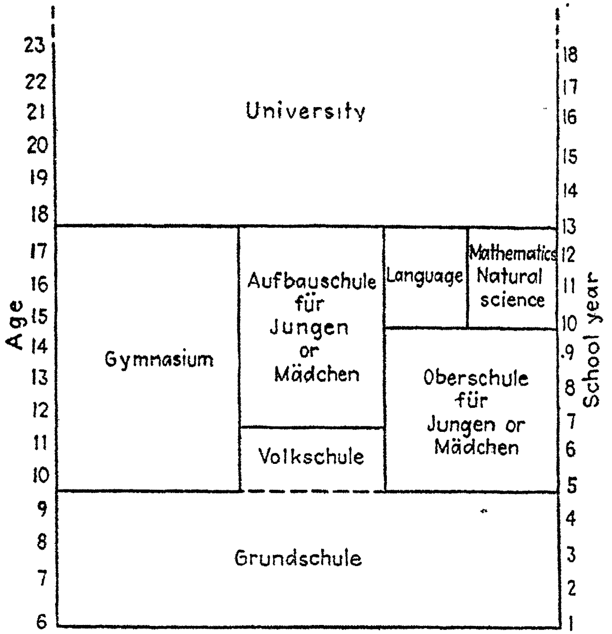

FIG. 33.—The German school system. [*Drawn from data given by H. Nabholz, Reform of the Secondary Schools of Germany and France, School and Society,* **42** (*January* 8, 1938), *p.* 56; *also Alina M. Lindegren, Education in Germany, U.S. Office of Education Bulletin* 15, 1938, *pp.* 10–11.]

Reorganization of Secondary Schools of Germany in 1938.—By an ordinance of January 20, 1938, the first Minister of Public Education of the Third Reich completed the basic reorganization of secondary education in Germany according to the principles of the National Socialist Party, which means according to the principles "laid down by Adolf Hitler in 'Mein Kampf.'"[3]

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[1] H. Nabholz, Reform of the Secondary Schools of Germany and France, *School and Society*, **47** (January 8, 1938), p. 56.

[2] Wilhelm, *op. cit.*, pp. 81–102.

[3] Michael Demiashkevich, More on the Reform of Secondary Education in Germany, *Educational Forum*, **3** (November, 1938), pp. 81–95.

1. The secondary-school period was reduced from nine to eight years. This does not imply a reduction of the quality or quantity of secondary-school work. The high standards of work were retained or even raised, for according to the Minister of Education, "There is no place in a secondary school for incapable pupils nor for pupils showing clear signs of weakness of will power or character."[1]

2. The secondary schools were to be built on a common four-year elementary school, or a six-year elementary course in the case of the *Aufbauschule.*

3. Coeducation is contrary to the National Socialist conception of education. The admission of girls to secondary schools for boys is possible only in exceptional cases as in the *Oberschule für Jungen* which may admit girls, who are given the same instruction as in a school for girls. Boys are never admitted to girls' schools.

4. No new program of religious instruction was issued.

5. A bifurcation from the sixth through the eighth form was provided. One part will emphasize natural science and mathematics, and others will stress foreign language. All will receive instruction in German civilization, biology, and physical education. The following direct quotation will reveal one of their aims:

"The difficulties against which the mind has to struggle in the process of the acquisition of scholarship, the compulsion of the logic, and the inexorable law of objectivity, all these are not bad directors of character,"[2] and also "The new school will subject the adolescent to mental discipline; it will not shun the duty of employing compulsion in order to enrich the youthful mind with useful knowledge and also to strengthen it and make it plastic."[3]

6. In the *Gymnasium*, Greek is begun in the third form and is continued through the final form. In the fifth form the study of English is begun, and recommendations were made that French be studied from the sixth through the eighth form.

7. The type of schools for boys are: the *Oberschule für Jungen* and the *Gymnasium*, both eight-year schools built upon a four-year elementary course, and the *Oberschule* in *Aufbauform für Jungen*, or the opportunity school, which is built on a six-year elementary course. The latter type serves rural youth who are of good health, intelligent, and of good character. They are boarding schools.

8. The schools for girls are: the *Oberschule für Mädchen* with emphasis on home economics or foreign languages, and the *Oberschule* in *Aufbauform für Mädchen*, which places emphasis on home economics. Only by way of extraordinary exception may a girl be admitted to a *Gymnasium.*

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[1] *Ibid.*, p. 82.

[2] *Ibid.*, p. 87.

[3] *Ibid.*, p. 88.

9. The tuition fee is 240 marks a school year.

10. Free places may be granted to "highly gifted children of excellent character, achievement, and general attitude." The total number of free places shall not exceed 10 per cent.

Secondary Schools in England.—As contrasted with the schools of France and Germany, which have strong central control, the schools of England encourage local initiative.

The national government of England took little or no interest in a state system of education before the twentieth century. Before that time, the education of youth was left to the Church, local initiative, or to private undertakings. The philosophy of the Englishman was that the education of his children was a matter of personal and private concern, and not a function of the state, and in this matter he did not wish to be disturbed. Education was considered a class privilege, and the state was indifferent in the matter.

The development of schools came first through practical needs and desires of individuals, rather than through a system devised by educators or legislators and imposed upon the entire nation. For that reason, the system is complex and lacks design.

Before 1900, secondary schools were maintained almost wholly at private expense, and each had its own preparatory department. Many of the private schools, known as "public" schools, are several centuries old, one of them having been founded as early as 1382. They are known as "public" schools because they were privately endowed for the good of the public. They are private in our meaning of the term since they charge tuition, and are privately controlled. They are still mostly for the upper classes, since the tuition is high and few can afford to pay it.

For the laboring and lower classes free elementary schools which lead to a higher education were maintained. They were supported by the churches, and by societies for the promotion of Christian knowledge. After 1870 they were given some aid by the government. Although the two systems were similar in curriculums and equipment, they were widely separated by social differences and distinctions. The two systems were developed mostly in cities, few schools being established elsewhere.[1]

The Fisher Act of 1918 extended educational opportunities and increased the government's part in the system. It provided for free places in secondary schools for those who had ability but lacked funds, extended compulsory education to the age of 14, and provided for secondary courses in academic and vocational subjects. The state now pays one-half of the total cost of public schools. This act furthered the establishment of a national system.

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[1] I. L. Kandel, "History of Secondary Education," pp. 282*ff.*, Houghton Mifflin Company, Boston, 1930.

Types of Secondary Schools.—In England today there are secondary schools of a private nature which are independent of the government, others which are private but aided and inspected by the government, and still others that are public in control and support. The support of the state schools is shared by the local community and the central government. These types are known by the following names:

1. The privately endowed and controlled "public" schools for boys which are expensive and exclusive. The curriculums of these are classical, literary, and academic.
2. The day grammar schools for boys or the day high schools for girls, which are founded in various ways, are supported by local authorities and grants from the Board of Education, and have fewer classical curriculums.
3. Private venture schools for either or both sexes, with traditional curriculums and which may or may not be inspected by the Board of Education.
4. The municipal and county secondary schools, a fifth of which are coeducational and which can best be described as belonging to a public-school system.
5. "Central schools" which have been established in cities since 1910 for those who cannot or do not wish to enter regular secondary schools, but who desire three or four more years of schooling after the age of eleven. Such persons receive more of a vocational than an academic training, designed for those who will become artisans, or engage in commercial or office work, or a curriculum leading to industrial work. These schools are secondary in everything but name, and are increasing in popularity. They are shorter than the regular secondary schools which are seven years in length, have a more practical curriculum, and are less expensive. Admission to these is made on the basis of an examination and on record of previous schooling.[1]

At the ages of 11 to 13, pupils of the public elementary schools may take the "free place examinations." Those making the highest records are granted the privilege of entering a secondary school with a scholarship which pays fees and often an additional grant for maintenance and clothing. Those ranking next on the examinations are qualified for central schools which are less academic, while all others must attend higher elementary schools until the age of 15. Those enrolled in the private elementary schools may either enter the secondary school (the "public" schools) at the age of 8 or 9 or at the age of 11. Some of the public schools, however, receive pupils at the age of 12 to 13 who remain to the ages of 18 or 19, while those attending the central schools remain until the age of 15.[1]

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[1] Cabot, *op. cit.*, p. 58.

The Great Public Schools.—The best known schools of England are the great public schools, some of which were established during the fourteenth and fifteenth centuries and are the oldest and most time-honored of all secondary schools. Although there are now about 50, nine are much older and better known than the others. The better known of these are Eton, Winchester, Westminster, Shrewsbury, Harrow, Rugby, Merchant Taylors', Charterhouse, and St. Paul's. They are rich in customs and traditions, maintain a high degree of scholarship, and enjoy a high degree of prestige which has remained unchanged for years. They are highly exclusive, and, since each enrolls from 450 to 700 pupils, places in them are often difficult to obtain. Tuition fees are high, Eton and Winchester charging the highest of any. The fees usually include maintenance and lodging since all of them are boarding schools divided into houses over which there is a headmaster. Teachers and headmasters are well paid and are selected from the best scholars from the universities.

The curriculums are classical, Latin and foreign languages holding a prominent position. Two languages other than English are required of all pupils. Other subjects are mathematics, science, religion, and philosophy. Examinations are the basis of all promotions which are made every half year. At the age of 16, college-entrance examinations are taken although the students remain in the public schools for two or three additional years specializing before going on to the university. The buildings are old, but the equipment is modern, consisting of science laboratories, modern dormitories, gymnasiums, and workshops.[2]

These schools still cling to many old customs and traditions in the way of living, dress, school government, and still spend much time in playing games and entering into sports. Through the games and sports, true sportsmanship, cooperation, character, honesty, and unselfishness are developed. It has been said that many of England's battles have been fought and won on the playgrounds of these schools, for the majority of the boys enter professions or become statesmen. In fact they are about the only open roads to positions in the army, navy, Parliament, or public life. They are considered the training ground of leaders and statesmen.

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[1] Esther Crane, England's Education for the Adolescent, *Journal of the American Association of University Women*, **29** (June, 1936), pp. 212–217.

[2] Cabot, *op. cit.*, pp. 61–66.

Although scholarship is stressed, it is not emphasized so much as in the French and German schools. "Good form" is the key note in the public schools. Thus it is better form to take classics than science, and, since character training is one of the chief aims, all things developing character are considered good form. It is good form to do certain disagreeable tasks or take certain subjects, such as taking cold baths or studying Latin. It is also good form not to tell lies, cheat, steal, or be a bad loser in a game.

The public schools have greatly influenced the other secondary schools in their traditional adherence to classical curriculums, although most of the progressive and modern subjects are found in the municipal and county schools. They still maintain their prestige, although it is slightly lessened due to the fact that entrance to these schools is gained mostly by paying fees, while in the publicly supported schools, one-fourth to one-half the pupils are selected on the basis of ability, and as a result the public schools are no longer considered to have a monopoly of all the superior ability of the nation.

Publicly Supported Secondary Schools.—The schools established by the county and borough councils are known as council schools. Their chief function is to prepare boys for the universities, but only a few of the graduates enter the universities. This domination of the curriculum by the universities is due to the examinations set by them. It is criticized in that it sets a curriculum of the same type for all who attend. Because of this function their curriculums are determined to a great extent by the universities. All charge fees, but if they are to participate in public grants they must admit at least one-fourth of their pupils without fees. Those able to pay fees gain entrance readily; others must pass competitive examinations.

As contrasted with Germany where the schools are instruments of the state for the purpose of propaganda, England does not use the schools for that purpose. Individual development and local initiative are stressed. Uniformity in practice and in the courses of study are not desired, so the prescriptions of the board of education are quite general with reference to the curriculum. Vocational and specialized courses are excluded, the courses being general and academic. Languages occupy a prominent place, with science and mathematics second. Other suggested subjects are history, geography, music, drawing, and the Scriptures.

A typical London county school can be described as follows:[1]

> Enrollment standards are 450. Curricula includes one foreign language, drawing, singing, manual arts, physical education, and organized games and sports. Latin is taught in about all the schools following English tradition, and Greek in about one-fifth of them. English is most important. Some of the schools are trying the Dalton Plan, and still others are experimenting with progressive methods. The London County Schools are trying to give to the middle classes a secondary education formerly given only to the upper classes. The teaching is fair, but not quite up to that in the Public Schools, whose teachers are recruited from the highest scholars in the Universities. (*Reprinted by permission of the President and Fellows of Harvard College.*)

"The Education of the Adolescent."—As contrasted with those countries which changed their school systems abruptly with a change in the political party in power, England has made educational reforms only after deliberation, experimentation, and study. A publication entitled "The Education of the Adolescent" (1926), which represented the report of the Consultative Committee on Secondary Education appointed to study the best type of education for all youth who will remain in other than secondary schools up to the age of 15, has had much influence upon later educational reforms. They also considered methods of facilitating transfer of pupils to secondary schools at an age above the normal age of admission. The committee found that approximately half the children between the ages of 14 and 15, and three-fourths of those between the ages of 15 and 16 were not receiving full-time education of any kind. Some of the recommendations were:

1. Courses of advanced instruction would be organized in public elementary schools for older children, including those who remain beyond the age of 14. These are to be known as "senior classes."
2. All education up to the age of 11 plus should be known as "primary education"; and education after that age, by the general name of "secondary education."
3. The age of compulsory school attendance should extend to the age of 15.

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[1] *Ibid.*, pp. 59–60.

Recommendations were made which formed the basis for a complete system of postprimary education or that type of education known as "middle school," "junior high school," or "superior primary." Since the proposals aimed to give that type of education best suited to the needs, abilities, and interests of all pupils, three types of schools were proposed (1) "grammar schools" or the type most commonly existing at the time offering a literary, scientific curriculum, (2) "modern schools," or those of the "selective" central-school type, with a realistic or practical trend in the last two years of a four-year curriculum, and (3) those of the existing "nonselective" central-school type, also known as modern schools, with differentiation between pupils of different capacities, and (4) the departments of classes within public elementary schools known as "senior classes." Provision should be made for transferring pupils of ability to "secondary" schools at the age of 12 or 13.[1]

One of the weaknesses of the English school system is the extent to which her traditional practices are retained during a period of increased enrollments, and her failure to encourage variations in courses to meet individual differences. Although the board of education does not prescribe the curriculum, flexibility is not promoted because of custom and partly because pupils are submitted to an examination at the end of the first four years. The examining bodies, associated with the universities, state their requirements so that emphasis falls upon traditional subjects.[2]

The Consultative Committee undertook a further inquiry in 1933 into improving the schools to suit the pupils, and reported in 1938.[3] The committee included in its survey not only the traditional secondary and "grammar" schools, but also the selective and nonselective senior schools, or "modern schools" (recommended by the committee in its report of 1926). The committee rejected the comprehensive or multilateral school as a means of enabling "the right pupils to receive the right education from the right teachers," on the grounds of administrative difficulties. They recommended a new type of school—the technical high school. They considered postprimary education after 11 plus, as a unit within which differentiation according to abilities should be provided. Teachers are urged to consider the abilities of pupils at the end of the first two years of their secondary work in order to encourage transfer from one school to another, if desirable.

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[1] James F. Abel, Major Trends of Education in Other Countries, *U.S. Office of Education Bulletin* 13, 1928, pp. 37–38.

[2] Kandel, Secondary Education, *The Educational Forum*, **3** (May, 1939), p. 482.

[3] *Ibid.*, p. 485. This report is now referred to as the "Spens Report." Sir William Spens has been chairman of the committee since 1934.

Since the Report of the Consultative Committee or Hadow Report, England and Wales have made much progress in their reorganization of schools. The present trends are toward the following stages or divisions (Fig. 34).

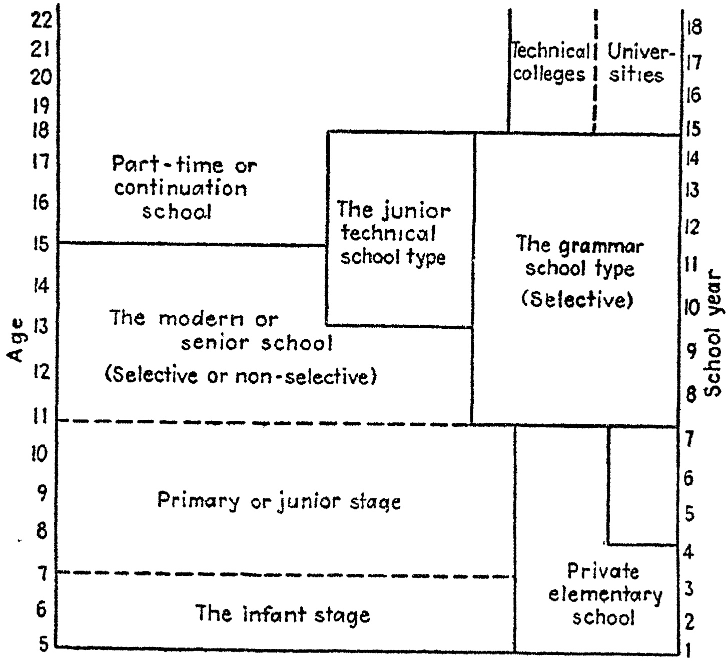
Age
22
21
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
Technical colleges
Universities
Part-time or continuation school
The junior technical school type
The grammar school type (Selective)
The modern or senior school (Selective or non-selective)
Primary or junior stage
Private elementary school
The infant stage
School year
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1

FIG. 34.—Trends in reorganization of the schools of England and Wales. [*Drawn rom data presented by Harry K. Newburn, England and Wales, the Phi Delta Kappan,* **22** (*November,* 1939), *pp.* 108–115.]

The infant stage from ages 5 to 7.
The primary or junior stage from 7 to 11 plus.
The secondary stage from 11 plus to 18 or 19.

England is now considering, as is the United States, all schooling above the ages of 11 plus as secondary. On this level the three main types of school which are being established are:

1. The grammar-school type. These include the private schools, and those recognized for grants.

2. The junior technical school type. These schools receive pupils about the age of 13 and provide nautical and art training. They are open to both boys and girls.

3. The modern or senior school. These may be selective or nonselective, and care for the great majority of postprimary pupils.

Secondary Education in Italy.—Recent reforms in the Italian school system are designed to bring together more closely the school system administered by the Ministry of National Education and the physical, military, and political training given by the organizations directly connected with or parts of the National Fascist Party. The general principles of the reorganization are contained in *La Carta della Scuola* (The Charter of the School) which was completed in 1939. Attending school constitutes a part of the regular service to the state of all youth of Italy. Attendance is obligatory between the ages of 4 to 21. Beginning at the age of 4, an age earlier than that of any other country, the youth attends to the age of 14. If the youth no longer attends a formal school, he must take part in the activities of the Italian Youth of the *Littorio* until he is 21.

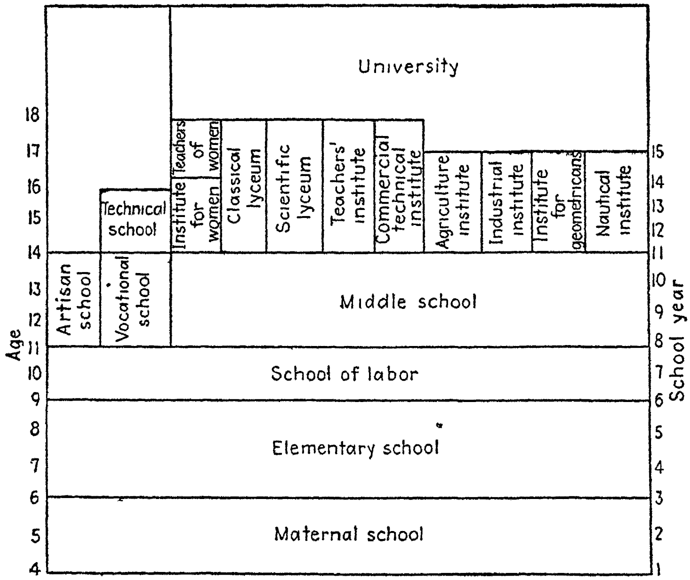

FIG. 35.—The school system of Italy. [*Adapted from J. F. Abel, Reform of Education in Italy, School Life,* **25** (*October,* 1939), *pp.* 15–16.]

The school is divided into six orders (Fig. 35): elementary, middle, higher, for women, university, and artistic. The elementary order consists of the maternal school from the ages of 4 to 6, which is compulsory; the elementary school of three years from ages 6 to 9; the school of labor of two years from the ages of 9 to 11; and the artisan school, a three-year division from the ages of 11 to 14.

The middle school (*scuola media*) has a three-year curriculum for those preparing for different types of schools in the higher order. The vocational schools parallel this division, and lead to technical schools.

The higher order (secondary education) includes four five-year schools: classical *lyceum*, scientific *lyceum*, teachers' institute, and the commercial technical institute; and four four-year schools: the agriculture institute, industrial institute, institute for geometricians, and the nautical institute. There are also, on this level, schools for women: a three-year institute followed by a two-year school to train teachers for the *instituto femminile.*

The university order, with 14 faculties (colleges), follows the higher order. The school of labor replaces the former upper course of the elementary school, and places more emphasis on practical than on literary subjects.

Entrance from the higher order (secondary schools) to the universities is on the basis of examinations, save in the colleges of law, political science, and letters and philosophy. Entrance into the faculty of education may be made only from the teachers' institute and then by examination. This requires, in some cases, an early selection of a vocation. Those divisions of the secondary school having only four-year courses will prepare students only for similar types of work on the university level and they are admitted then on the basis of an examination.[1]

The system is to prepare Fascist citizens and the entire system has been unified into a single unit based on Fascist ideals. No distinction is made between extracurricular and curricular activities. The system stresses instruction, labor service, and military training. The school term extends throughout the entire year interspersed with vacation periods for labor service. The time schedules in schools must not exceed 24 hours a week except in universities. Textbooks are furnished free in the elementary school, and must be approved by the Minister of National Education in secondary schools. Capable boys, who do not have the means, are guaranteed an opportunity to study in college by the state.

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[1] I. L. Kandel, Education in Italy, *The Educational Forum*, 4 (January, 1940), pp. 206–213.

The secondary-school curriculum ranges from the classical-linguistic type in the classical *liceo,* through the scientific, to the purely vocational types, as the commercial, agricultural, industrial, and nautical curriculums.[1]

The Folk School of Denmark.—The most outstanding school of Denmark is the Folk School, which is a part of the system for the folk or common people, as contrasted with a distinct system paralleling it for the elite. The system for the elite, typical of those of Europe, is not unusual. It is merely another example of a system built on class distinction.

The Folk School is an excellent example of a curriculum for young people built not on books and subjects, but upon the very processes of the lives of youth. It is a boarding school for rural youth and adults between the ages of 18 to 30, which aims to dignify and vitalize rural life. They are usually small and located in rural areas. Since a practical and vocational education has been received just previous, the curriculum contains both cultural and practical subjects. It aims to promote the welfare of society and give knowledge of and create a devotion to Denmark. The philosophy of the Folk School is based on that of Nikolaj Grundtvig, who felt that "not until the elementary school period and the restless years of adolescence had been passed, not until after the life questions had been asked and the young people had experienced something of the realities and hardships of existence through work, would they be receptive to those higher ideals which were the very basis of his whole plan."[2] This feature of postponing secondary education until after the period of adolescence is the most unique feature of the Danish schools. Although the high schools have always adhered to Grundtvig's ideas and have never become technical schools, agricultural and technical schools, embodying his principles, have grown up all over Denmark. The majority of persons who are members of the cooperative agricultural associations of Denmark attended the high schools.[3]

The Danish Folk School is unique in other respects. As contrasted with those whose curriculums are designed to prepare youth for college or prepare them for service to the state according to the prescriptions of the party in power, the Folk School exists to awaken personalities and develop responsibility. Few lessons are taught from textbooks which determine the course of study in most schools. In lieu of this, an instructor lectures an hour or so each day and the rest of the time is spent in social-civic activities and in receiving answers to questions which are considered more important than a previously determined body of subject matter. No marks are given, examinations are not employed, and no one is graduated. They believe that the community is the true educational institution. The schools help young people become intelligent, independent individuals, who accept their full share of the constructive tasks of civilization.[1]

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[1] *Ibid.*

[2] Cabot, *op. cit.,* p. 87. (Reprinted by permission of the President and Fellows of Harvard College.)

[3] *Ibid.,* p. 92.

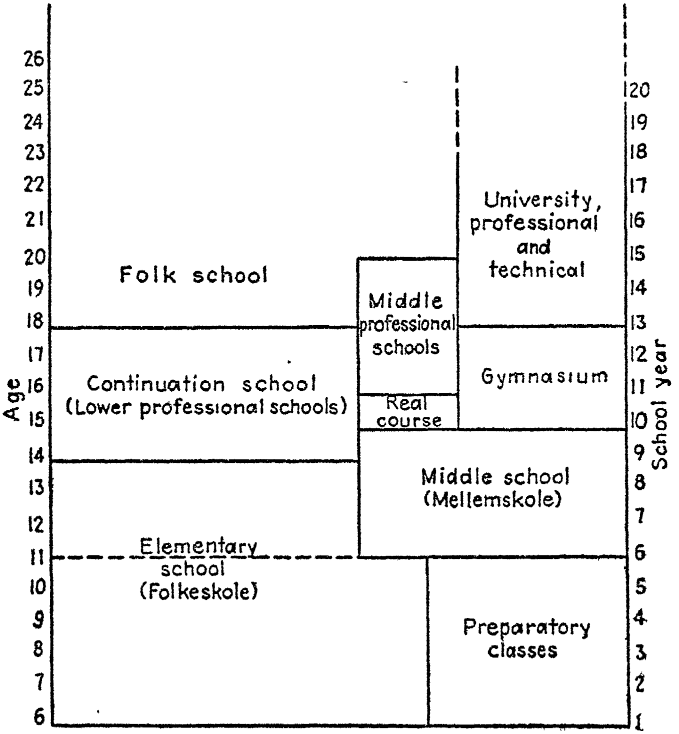

FIG. 36.—The Danish school system. (*Drawn from data presented by Stephen P. Cabot, Secondary Education in Germany, France, England, and Denmark, Harvard Bulletins in Education* 15, 1930, *Harvard University Press, Cambridge, Mass., p.* 87.)

Before attending the Folk School, the majority of children of the common classes attend an elementary school (*Folkeskole*) for eight years beginning at the age of six. From the ages of 14 to 18, pupils do not attend a full-time day school, but a continuation school. During this period much of their time is spent on farms learning agriculture or skilled trades through practical experience. After attaining the age of 18 they may enter the Folk School (Fig. 36).

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[1] J. K. Hart, "Light from the North," pp. 11*ff*., Henry Holt and Company, Inc., New York, 1927.

The schools for the other classes begin at the age of 6 in preparatory classes of five years leading to the middle school with a four-year course. At the age of 15, a pupil may either complete the middle school (*Mellomskole*) by taking an extra year in the *Real Klasse*, or he may enter a *Gymnasium* for three years. The *Gymnasium* offers three courses, the classical, mathematics-science, and the modern languages. The student is then eligible to enter a university.

Mexico.—Mexican schools are being made more functional and progressive. They are attempting to include those activities which are closely related to community life. Pupils must be integrated into the life of the group socially, economically, politically, linguistically, and artistically. School activities designed to integrate the individual into the life of the community, known as *education global* (integral education), includes guidance in diet, clothing, shelter, hygiene, and in methods of making a living.[1] Like many of the countries in Europe, education in Mexico is being placed under one minister, is becoming more centralized, and schools are being used as instruments for teaching the political, social, and economic doctrines of the party in power.[2]

These brief accounts of secondary schools in other countries reveal the variety of curriculums which have been built in order to attain the purposes for which the various schools were established. An examination of these curriculums with reference to the high school should give one a background which should enable him to analyze more intelligently the curriculums of the high school and revise it in the light of its own unique purposes in a democracy. The revision and reorganization of the curriculum should be a continuous process, but unless it is based on a sound philosophy of the purposes of secondary education, the needs of adolescents, and the values of the school to society, the reorganized curriculum will probably be little better than the original and may even be worse.

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[1] George C. Booth, Philosophy of Mexican Education, *The Phi Delta Kappan*, **22** (November, 1939), pp. 131–132.

[2] Abel, *op. cit.*, p. 85.

A description of these schools either illustrates a valid principle of secondary education in a democracy or is an example of what it should not be. These principles may be summarized as follows:

1. The curriculum should be broad enough to meet the needs of all pupils who attend the school. The Latin grammar school did not do this, for its curriculum was too narrow. The curriculum of the academy almost went to the other extreme and offered any subject a pupil desired.
2. Over and above a core curriculum of constants, elective courses should be offered. The secondary schools of U.S.S.R. have no electives. Twenty subjects are offered which all must pursue. Under the reforms of 1938, the schools of Germany provide for a bifurcation from the sixth through the eighth forms (year), but up to these years the courses are practically constant for all.
3. The curriculum should be articulated or unified, that is, each grade should build upon and continue the work of the preceding ones and consider subsequent ones. This is being accomplished in the English and French systems.
4. The curriculum should be related to and reflect the life of the community. An example of this is found in the Folk School, and the secondary schools of Mexico.
5. The curriculum should be based upon the adolescent as an individual personality rather than an instrument of the state, which may be used for its own glorification. This principle is contrary to the principles upon which the schools of Germany and Italy were recently reorganized.
6. No separation should be made between cultural and vocational or practical subjects. Most schools of Europe make this distinction. They have two types of schools, or a parallel system either for classes of people or types of subjects.

Patterns of secondary-school curriculums which illustrate these and other principles found mostly in experimental or progressive schools will be described in the following chapter.

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CHAPTER XIV

TRENDS IN ORGANIZING AND REORGANIZING SECONDARY-SCHOOL CURRICULUMS: PROGRESSIVE

Perhaps the greatest lesson to be derived from the study of the history of secondary education and comparative education is the fact that any school which failed to be progressive died. Examples of these are found in the secondary schools of the Greeks and Romans, the Latin grammar school, and the academy. These schools did not change with a change in society which resulted in their being divorced from life. Each was also replaced by a more progressive school. The high school, founded on a new philosophy and built upon the best of its two predecessors, was in danger a few decades ago of losing its prestige, for it was rapidly degenerating into a college preparatory school rather than changing its curriculum to meet the needs of the masses who were filling the schools.

Evidence is found also in modern Europe. Generally speaking, curricular revisions are constant and gradual, but when schools cling to traditional practices too long and resist social pressure to reorganize, then radical changes are made by a central authority. Hitler made radical changes in the entire school system of Germany, even altering the curriculum of the most traditional of schools, the *Gymnasium.* The *U.S.S.R.* even abolished the *gymnasium* with its classical curriculum because it did not meet the needs of the new social order.

In England where local control and a minimum of central authority has been the practice, it is predicted that after the present European conflict the great public schools of which there are now about 50 in number will merge with the publically supported secondary-school system. The difference between the curriculums, the standards, and the quality of students, between the public schools and those established by the county and borough councils, is rapidly disappearing. The public schools depend upon private fees for their support, and these fees are exceedingly high. The present war will so greatly reduce the number of families which are able to pay these fees that they will send their children to the publically supported schools which will force the others to become a part of the state or cease to exist.[1] As described in the previous chapter, many of these public schools (private in our sense of the word) are the oldest of all secondary schools in existence. They are likewise the most traditional in their practices and have strongly resisted efforts to change them, but a change in the social order is forcing them to do so.

On What Basis Should Curriculum Revision Proceed?—If dynamic curriculums are to be constructed which are based upon the responsibilities of the high school to society, and a recognition that it is a participating agency in the solution of community problems, then revision should parallel changes in contemporary life. It becomes necessary then to determine what these changes are.

The present chapter will present a number of changes in modern society followed by a description of a few outstanding examples of secondary-school curriculums which have been reorganized in the light of these changes.

CAUSAL FACTORS FOR CURRICULUM REVISION

The reexamination of the aims, functions, and goals of secondary education, the extent to which they have been achieved, and a reorganization of the curriculum in the light of this examination, should be a continuous process. Although general or ultimate aims might remain rather constant from one generation to the next, the specific aims and immediate outcomes must constantly be changed to keep pace with a changing social order. There is plenty of evidence that any school which does not serve society, whose curriculum becomes stagnant, which remains unchanging in a changing world, will die. There is also evidence that the demand for a changing curriculum has become articulate, as indicated by the extent to which certain school subjects of a formal nature, such as algebra, geometry, physics, and Latin, are losing popularity; the demand of parents that their children receive more than a cultural education; and the demand for the schools to accept the responsibility for many current problems of society.

The secondary school was established by society as a social institution intended to help man secure his basic needs. Other institutions—social, economic, spiritual, and political—were established at the same time. One function of the secondary school is to give youth a better understanding and appreciation of these institutions and help perpetuate them. A still more progressive point of view is that the school is not only to help perpetuate the most desirable institutions and culture of the past and present, but that it should go further and be the center for building civilization.[1] Regardless of which point of view one holds, each one requires that the secondary school engage in a constant curriculum reorganization: the one to acquaint youth with present-day society, and the other to prepare them to change present-day society. If curriculum reorganization and revision is to parallel changes in society, then a knowledge of these changes is essential.

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[1] Stated in a lecture by R. B. Mowat, visiting lecturer at the University of Arkansas from the University of Bristol, England, February, 1941.

CRITICISMS OF THE PRESENT CURRICULUM

Although criticism of the present curriculum cannot be used as a basis for constructing new curriculums, it does present one cause for reorganizing. Six criticisms of the present curriculums are presented in the Sixteenth Yearbook of the American Association of School Administrators. These do not imply that present curriculums do not contain any dynamic and life-centered elements, but that many schools fall far short of measuring up to their possibilities. These criticisms have, in part at least, a basis of genuine merit.

Criticism 1. The curriculum is remote from the student's daily life outside of the school. Despite the efforts of John Dewey and his followers, our public-school system still remains aloof from the everyday living of its pupils. Instead of vitalizing school life by tying it up directly with the things pupils see and do outside of the school, the school persists in maintaining an academic atmosphere so remote from actual life that the student usually thinks of his home and community activities as one type of life and of his school activities as entirely another. The school fails to articulate well, if at all, with other agencies that are serving the immediate needs of youth. Thus separated in the pupil's mind from the realities of life, it is little wonder that his schoolwork is likely to be of little immediate interest and of equally little practical value.

Criticism 2. The curriculum is not adjusted to modern life. Much has been written since the beginning of the nineteenth century about the failure of the curriculum to adjust itself to the needs and conditions of modern life. By journal, pamphlet, bulletin, report, and yearbook, world without end, individuals and committees have harangued about the traditional curriculum and urged the adoption of a curriculum better adapted to the conditions of modern life. In private council and public forum, speakers, year after year, have declaimed against our outmoded curriculum and voiced a demand for materials that would fit youth to live in a modern world. Since the close of the First World War, and particularly since the spread of the depression, these demands have become increasingly insistent.

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[1] George S. Counts, "Dare the School Build a New Social Order?" p. 37, The John Day Company, New York, 1932.

Criticism 3. The curriculum does not reflect the aspirations of youth. The present secondary-school curriculum too often ignores the more urgent desires of youth. His poorly voiced ambitions are frequently met with misunderstanding, lack of sympathy, or even ridicule. To the academically minded youth, the average secondary-school curriculum, although it tends to ignore personal and social aspirations, offers a chance for immediate social praise and an avenue to carry on higher levels of educational opportunity. But for the majority, the narrow curriculum provides only the stamp of mediocrity or failure, neither of which inspires youth to make the most of himself or to regard constructive participation in the social order with favorable eyes.

Criticism 4. The curriculum is not adapted to the individual differences among students. The present curriculum is set for one type of ability; it fails to recognize, much less pay attention to, the many types and levels of ability which crowd the classrooms. This lack of variety in the content of the present curriculum results in the failure of a large per cent of the pupils. Yet there is no pupil so dull or barren of special ability of some sort that he cannot profit by the proper type of training.

Criticism 5. The curriculum has not kept pace with the latest developments in psychology. Many practices which modern psychology advocates have not been adopted in the presentation of secondary-school materials. Antiquated psychology and instructional procedures have too large a place in many schoolrooms. Modern psychology measures individual differences; it diagnoses difficulties in learning; it analyzes maladjustments; it sets up proper remedial measures; it discovers special abilities; it reveals the significant sources of motivation; and it points the way to successful guidance. But none of these dynamic contributions to the welfare of youth comes to more than minimum use in the conventional high-school program.

Criticism 6. The present curriculum gives too little attention to the emotional and social attitudes which in many cases play a more dominant part in the development of youth than their intellectual interests. The school has apparently assigned that role to some outside agency or else has underestimated its importance.[1]

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[1] "Youth Education Today," pp. 57–63, Sixteenth Yearbook of the American Association of School Administrators, Washington, D.C., 1938.

INSTITUTIONAL CHANGES

The Home.[1]—Of the three main social institutions—the home, the Church, and the school—the first is the oldest and most firmly established. It is regarded as the fundamental social institution. Although traditionally conservative, it is undergoing many changes which have direct implications for curriculum revision. Many home functions such as cooking, sewing, and laundering are now being industrialized, and other family responsibilities are now being taken over by community agencies. The home was once the seat of entertainments and amusements where youth spent most of their leisure time, while now commercialized amusements have removed many of them. Formerly there were many chores to be done by children, but because of the many modern conveniences, and the migration to urban centers, with apartment-house homes without lawns or gardens, these tasks have disappeared. A few decades ago the father was the undisputed head of the household; now it is a cooperative enterprise with the wife holding the pocketbook, for recent estimates indicate the wife spends about 85 per cent of the family budget. Divorces are more easily secured and are not frowned upon as they were, while there is greater independence of the members of the family.

Changes in the Church.—The Church is no longer the undisputed social center of rural communities, and it certainly is not the social center of urban centers. Although church attendance has increased, the percentage of persons attending church has decreased. Other organizations are taking the place of the Church for many people, while the radio, cinema, and the automobile are diverting persons from church attendance. The Sunday school, formerly the primary institution for training in ethical character, is no longer able to influence youth as it formerly did. It is a disputed question as to whether the Church should remain conservative and fundamental in its views, or become more liberal and try to regain lost influence.

Changes in the School.—Changes in the secondary-school population have been mentioned previously; that is, as the population increased it brought in a more heterogeneous group with diversified needs, interests, and abilities. The single college-preparatory curriculum cannot hope to meet the needs of the millions who now attend high school. The number of high-school graduates attending college is increasing but the percentage is decreasing.

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[1] Lawrence K. Frank, Changes in Home and Family Life and Their Relation to Education, *School Life,* **20** (March, 1938), pp. 241–242.

SOCIAL AND ECONOMIC CHANGES

The twentieth century has rightfully been called the "machine age" or the "age of electricity." Technology has advanced more rapidly than sociology. Modes of living, thinking, and doing have changed because of machines, but social control has not kept pace with the numerous mechanical devices to save time and labor.

Ease of Mobility.—With respect to the school, facility in transportation has aided the consolidation movement, and has brought many problems by creating a shifting population. School officials find it difficult, especially in industrial centers, to anticipate building needs, and in coal-mining towns, portable schools have been employed. Constant shifts to pursue seasonal employment have resulted in an overlapping of work in some cases and omissions in others; while still others avoid attending school at all. The problem of safety on the highways was not important two decades ago, but with the mounting number of accidents and deaths due to automobiles, educators have accepted the challenge of educating youth to take its place at the wheel. Highways and automobiles were developed more rapidly than drivers could be trained. Technicians and engineers are making roads and cars safe; schools are called upon to remove the human factor as a cause of accidents.

Urbanization.—Ease of mobility and economic conditions have been partly responsible for the shift in population from rural to urban centers. From 1900 to 1940 the percentage residing in rural centers dropped from 60 per cent to 43.5.[1] During the decade of urban prosperity, 1920–1929, nearly half the youth on farms, as they reached maturity, moved to the cities; but many of them returned to the farms during the decade. However, the net migration from farms was about 6,300,000 during the predepression decade. About 60 per cent of these were from the South and probably half the migrants were under 18 years of age. These swelled the urban school population.

During the depression years, migration from farms was retarded because of an inability to secure employment in cities, and millions returned to farms, bringing their children, and causing an increase in rural school population. But in only one year, 1932, did migrations to farms exceed migrations from farms for the United States as a whole for the period 1930 to 1934.[1] These rural-urban migrations are associated with periods of economic prosperity and cause an uncertainty as to where youth will be residing during the next decade. Some school problems associated with these changes are the following: an overcrowded urban school; provision for leisure hours formerly occupied by chores on the farm; problems of health and sanitation due to the fact that rural people had to learn that certain modes of living which were satisfactory in rural areas were not healthful if practiced where persons lived too close together; and finally, increased problems of vocational guidance.

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[1] Sixteenth Census of the United States, 1940, Series P-5, No. 5, Department of Commerce, Bureau of Census, Washington, D.C., March 10, 1941. This includes rural farm and nonfarm.

Commercialized Amusements.—Americans have been criticized as being unable to entertain themselves and being dependent upon commercialized amusements. It has been estimated that the weekly attendance at moving-picture shows is about 85,000,000, while dance halls and amusement parks are well supported. The machine age has given increased leisure hours—hours which youth must learn to spend profitably.

Technological and Economic Changes.—The rapidity with which articles are manufactured has introduced a division of labor, producing thousands of occupations and requiring millions of workers. Many occupations have either gone out of existence or have been greatly reduced. Industry is asking for more vocational training in high schools in order to shorten the period of preparation in service and also to reduce the number of misfits. At present there is no adequate apprenticeship system to meet the vocational training requirements of youth, and the schools are finding it necessary to give basic vocational training of a general nature.[2]

Mass production has necessitated pressure salesmanship in order to distribute manufactured goods. Many times the methods used are not entirely ethical and undue advantage has been taken of the consumer. Through advertising, attempts are made to cause the consumer to purchase what he does not need, more than he needs, goods of a higher quality than he needs, and to change models or styles more often than is necessary. To do this salesmen have appealed to vanity, pride, fear, prejudice, desire for strength, beauty, popularity, and wealth. Although several publications are available to guide the consumer, the most logical place for training in economic intelligence is in the schools.

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[1] O. E. Baker, Population Prospects and Public Schools, *School Life*, **23** (May, 1938), pp. 305–307.

[2] David Cushman Coyle, Technological Changes and Their Meaning for Education, *School Life*, **23** (June, 1938), pp. 337–339.

Consumer education is not limited to purchasing but in actually consuming and conserving, especially fuels, as electricity, natural or artificial gas, and coal. Instruction in this involves a knowledge of and skill in the operation of electrical appliances, gas and electric ranges, burners, and coal furnaces. The elements of economy, efficiency, and safety are all involved in the proper consumption of utilities.

Conservation.—America is rich in natural resources such as coal, oil, gas, lumber, minerals, and fertile soil, but through misuse, waste, erosion, floods, fires, and rapid use this natural wealth is being depleted more rapidly than it is being replaced, and some is apparently being completely exhausted. If education is defined as a "debt due the future from the present generation," then the same attitude would require that the present leave as many natural resources to the future as they consumed, or devise ways of harnessing energy not now being used. The problem of soil erosion, flood control, forest fires, and depleted forests is with the present and every generation. In an attempt to solve the problems, or at least to make children aware and conscious of them, we have introduced materials about conservation into our schools. One state, Arkansas, has made it mandatory that suitable training be given to all teachers in all teacher-training institutions of the state in conservation so that they in turn will be prepared to instruct youth in both elementary and secondary schools.

Poverty, Crime, and Unemployment.—A reiteration of the conditions in the United States with reference to poverty, unemployment, and crime is not necessary. Certainly there is a cause and cure for all three and all are somewhat related, in that unemployment causes poverty, and often leads to crime. The extent of criminal activities has been a national scandal for years, and unemployment has been an acute problem for about a decade. The problems are evident and numerous, but just what the school can do about it is not definite. If unemployment is a result of a lack of vocational training, as some claim, the school's task would be well known; but, regardless of one's training, positions must be available and schools cannot create positions. If they are available and if industry and the business world are in need of man power, positions will be filled, whether with trained or untrained persons. Those who are trained will, of course, be given preference. It is only recently the schools have attempted to train youth for general vocations, and certainly there are more trained youth now than before this was done, and at the same time there is more unemployment. Vocational training makes its greatest contribution in adjusting youth to the vocational world, rather than by giving them specific training in the types of work they could or might pursue. The school can never create wealth or positions.

The high schools can and do give instruction in moral conduct, good citizenship, and ethical character, intended to reduce the amount of crime. Likewise training in leisure-hour pursuits helps prevent criminal activities, but regardless of the school's attempts in this respect, if the home and community environment of each individual does not promote the same type of growth, the school's attempts will be ineffective. Society cannot dispose of her social and economic problems merely by referring them to the school and expecting immediate and desirable improvements. The school is only one agency affecting the lives of the children and unless there is complete cooperation between others and the school so that all might work toward the same goals, advancement will either be slow or checkmated.

Prohibition.—Perhaps the best single example of the lack of cooperation between the school and other educational agencies is to be found in the public's, the school's, and the Church's attitude toward intoxicating liquors and tobacco. The Church's attitude is that of prohibition; the school's, that of moderation and temperance. Otherwise these two work toward the same goal, but the moving pictures, newspapers and magazines, and public and social activities are opposed by both action and statements to both Church and school. Advertisements encourage smoking and drinking; the average cinema is at least tolerant of drinking, and with the exception of ministers and teachers, and possibly a few others, there is no social stigma attached to smoking and little to drinking. The romance seems to be on the side of drinking and smoking, since, according to the advertisements, heroes, athletes, and those of a high social and economic status smoke or drink.

Small wonder attempts to teach the evils of these practices to adolescents are not taken seriously. Few if any schools are attempting the former methods of teaching prohibition by trying to create an attitude of fear, but are confining their work to known and established facts and respect for others and a desire to be more efficient. There are those who even believe that since many youths will drink anyhow, in spite of all education, it is better that the schools teach them to drink moderately. It is doubtful if such a proposal would ever be tolerated by patrons of the school even if it were by educators.

Immigration.—Notwithstanding the fact that the number of immigrants to the United States has been reduced in recent years, the number is still sufficient to warrant special efforts to integrate and democratize them. Their immediate needs are a knowledge of our modes, customs, laws, and language. From a standpoint of national solidarity, we should inculcate in them ideals of democracy. The secondary school is an excellent institution for this work.

CHANGES IN EDUCATIONAL THEORIES AND PRACTICES

The greatest changes which have taken place in educational theories and practices have been those contributed by educational psychologists. The directing of learning and efficient methods of studying are based upon psychological principles, and newer findings have placed grave suspicion and doubt upon many former practices.

Transfer of Training.—The older explanations of transfer of training were the now discredited formal discipline and faculty theories, which denied the doctrine of interest, believing that if one were interested in a subject it resulted in soft pedagogy and the subject would have no value. Since these theories have been discredited, subjects placed in the curriculum with no values other than formal discipline are losing in popularity.

Interest and Social Utility.—Recently, greater value is being placed on interest and social utility. Those subjects which have the greatest appeal to pupils, are more congruous with his abilities and needs, and have the greatest social utility are given preference. Interest is a strong and lasting drive, and, if there is such a thing as formal discipline, being interested in a subject will not prevent its operation. Likewise, the fact that a subject has great social value would not prevent "mind training," if there is such a process.

Integration.—Transfer of training from a school to a life situation, or from one subject to another, proceeds more rapidly if it is taught. This is facilitated if all similar responses to a unit situation are placed together in the same course of study and taught either in close succession or at the same time. The division and organization of subject matter into the usual or conventional subjects, such as science, mathematics, English, history, and art, does not bring all related materials together, thus clouding relationships. Recently, much subject matter has been organized on a unit basis cutting across various divisions, or two or more courses are being fused, as science and mathematics, history and geography, or teachers are correlating subjects, that is, pointing out relationships between subjects. Methods of organizing curricular materials on these bases will be discussed later in this chapter.

Shift in Emphasis on Certain Aims.—Although general aims remain rather constant, means of achieving them and relative emphasis on various ones will change with a changing society. A few specific examples will illustrate this point. Ethical character and moral conduct have been either an implied or stated aim of secondary education for generations, but the method of teaching it has changed from a more or less direct method of moral lectures and didactic stories to an indirect method of wholesome activities and literature. Generally speaking this is true, notwithstanding the daily reading of the Bible required in many states, as Pennsylvania and Arkansas, and many direct attempts still being practiced.

Citizenship, an aim of all secondary schools of all countries, may be taught in many ways and through the medium of many subjects. Citizenship training is always conditioned by the type of citizen one wishes to train. A social-studies course consisting of political history and civil government has been replaced by a greatly changed social-studies curriculum. A mere knowledge of laws and historical facts, flag saluting, and oath-of-allegiance pledging will not produce good citizens. Furthermore, democracy must be lived and practiced. It cannot be taught directly.

Examples of a shift in emphasis on certain aims may be seen in the worthy use of leisure time and vocational efficiency. The increased amount of leisure gained by a shorter working day introduced the problem of providing worth-while activities during these hours, so that leisure time would not be more detrimental than beneficial to the individual and to society as well. Vocationally, the school must modify its curriculum to give more vocational training, more exploration and guidance, and more skills, knowledge, and attitudes basic to a number of general vocations. This need has been accentuated by the increased number of vocations, the number of vocational misfits, and the changing industrial world. If one has only specific, rather than general training, if there are no opportunities in his specific field due to seasonal slacks, difficulty in moving, or a replacement of the vocation by certain machines, an individual will be numbered among the unemployed if he does not have the ability to adjust himself to a new type of work.

IMPLICATIONS FOR CURRICULUM REORGANIZATION

In the light of the many changes taking place in social and economic institutions, and in educational practices and theories, the following implications may be suggested for curriculum revision:

1. Many things formerly taught in the home, such as cooking, sewing, and purchasing, must be taught in the school.
2. Ethical character, formerly adequately cared for by the Church and home should be emphasized more in the school.
3. The single or college-preparatory curriculum will no longer meet the needs of all those attending the secondary school. A multiple or constants-with-variables curriculum should be the standard practice.
4. Many new topics or subjects should be introduced in the curriculum as consumer education, safety, and conservation.
5. Vocational courses for exploration and vocational efficiency should be introduced in secondary schools especially for those who in all probability will not continue their work in higher institutions.
6. Greater emphasis should be placed upon developing the aims of worthy home membership and leisure-time activities. Not only should the school train youth to spend their leisure time more profitably but it should aid them in selecting the books and magazines they read, the moving pictures they see, and the radio programs they hear.
7. Curriculum organization should proceed on the principles of reducing the number of subjects being offered, and combining many subjects around broad general units.
8. Subjects which have few values other than those of formal discipline and college preparation should be pure electives and offered only in the eleventh and twelfth grades.
9. Subject matter should be selected more in keeping with the needs, abilities, and interests of youth with due consideration of social and economic utility and present as well as future needs.

These suggestions are based on the assumptions that:

1. The school should be made to fit the pupil.
2. The school is an instrument of society, but
3. The welfare, efficiency, and happiness of each individual should be considered.
4. The school should teach those desirable activities the pupil will or should do, and that

5. If these things are not being adequately cared for incidentally or by some other agency, and they are for the welfare of society, it is the responsibility of the school to teach them.

Forces Demanding Curriculum Revision.—In addition to the causative factors for curriculum revision there are many forces either demanding or asking for changes to be made—forces which cannot be ignored. The taxpayers are objecting because claims made by educators have not materialized. Educators are demanding elimination of some of the "dead wood" in the curriculum, and they are calling for subject matter with more social utility. Definitions of art and culture have changed. Culture no longer means a smattering of arts and social graces with no practical value. Even democracy itself has been challenged, while some claim universal secondary education is a doubtful practice and not worthy of the burden on the taxpayer. The First World War and the depression revealed how fit or unfit we were with respect to health, literacy, and vocational efficiency as well as socially and morally. Various pressure groups are demanding reforms or additions such as the teaching of prohibition, religion, ideals of democracy, and conservation, while in other quarters there is open opposition to the high school.

These influences should not cause educators to become unduly alarmed about the future of the high school, but should be interpreted to mean that notice is being served that if reforms and reorganization do not keep pace with a changing social order, the school will either lose popularity or be replaced by a more progressive institution. Curriculum makers—and this term includes all teachers—can never rest long on the security gained on the past reputation of certain subjects, for when the value of certain subjects is challenged if they are not serving a definite social need, their popularity will wane.

Douglass, in commenting on the present state of the curriculum in its relation to society, states: "If an archeological expedition some 500 years hence should unearth one of our courses of study and base conclusions on schools on them, they would be convinced that schools were intent upon bringing pupils to maturity in complete ignorance of the social, economic, and political world."[1]

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[1] Harl R. Douglass, Can We Re-vamp the High-School Curriculum to Fit the Needs of To-day? *Baltimore Bulletin of Education*, **14** (October. 1936), pp. 49–57.

Written either actually or supposedly by a former high-school pupil, excerpts from the following letter will reveal the attitude of a student several years after graduation.[1]

August 1, 1936

Mr. John B. Blank
Principal
Central High School
DEAR MR. BLANK:

During the years spent in your school I thought I was being educated to take and fill my place in life. I have been completely disillusioned. I realize now that your high school was an artificial institution, a sort of human hot-house set up with few life contacts and very little relation to life as it is lived in the everyday world. . . .

Are you still running the same kind of a harmless, gentle, unnatural institution that you did while I was a student from 1926–1930? I am afraid so! But your students deserve better. They are entitled to know about life, and they deserve the opportunity of dealing with real life problems in the language, manner, and fashion that life is lived. . . .

Now a word about myself. In September of 1930, upon your recommendation, I was accepted as a promising freshman at ______ College. Along with hundreds of others, I was forced by the grim, biting depression to leave college at the close of my freshman year. Oh, yes, I got along well enough during my short stay at college. You will be interested to know that ______ College is the only institution, organization, or situation with which I have come in contact since graduation from high school, which can compare with your school in its artificiality or in its degree of isolation from life. . . .

Mamie, you remember her, and I were married in June, 1933. Let me tell you right now that what we got in your high school has not helped either of us to solve our problems of young married life. . . .

The spring of 1934 found us on relief. I spent my time looking for a job, but I did not know how to do anything required by those who had jobs to offer. There was no demand for factoring or geometrical demonstrations; for translations of Caesar or Cicero, or for my knowledge of Goldsmith, Shelley, Keats, or Browning. My history did not function. . . .

I wish I had been taught more about family relationships, child care, getting along with people, paying off a small mortgage, household mechanics, politics, local government, the chemistry of food, carpentry, how to budget and live within the budget, the value of insurance, how to figure interest when borrowing money and paying it back in instalments, how to detect shoddy goods, how to distinguish a political demagogue from a statesman, how to grow a garden, how to paint a house, how to get a job, how to be vigorous and healthy, how to be interesting to others, how to be thrifty, how to resist high-pressure salesmanship, how to buy economically and intelligently, and the danger of buying on the instalment plan.

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[1] Lloyd N. Morrisett, The Curriculum and Life, *The Clearing House*, **11** (September, 1936), pp. 3–5.

How did you expect me to solve these and countless other real everyday problems with what you gave me? Or, did you? Perhaps you never thought of these things, but take it from me, all of the pupils now at dear old Central will meet these problems face to face. . . .

Well, here's hoping that your faith which seemed unbounded in four years of math, history, Latin, and your kind of English, has weakened, and here's hoping again that you will learn about life as it is really lived so that you may teach it to those who now fill the halls of my dear Alma Mater.

The baby is crying. It is my time to act as nurse.

John Jones,
Class of 1930.

PROGRESSIVE TRENDS IN INTEGRATING THE CURRICULUM

Owing to the various factors calling for a revision of the curriculum, educators are critically examining the traditional methods of organizing and presenting curricular materials. They want to know whether or not youth are learning to solve their social, personal, and economic problems, and whether they understand life as a whole. An evaluation of the content of the traditional curriculum resulted in the conclusion that it was not meeting the needs of present-day society; an examination of the organization of the content and the methods of presenting the content are revealing that they too need revision if the school is to achieve what is expected of it.

Since 1932 and especially since 1935–36, there has been increased interest in curriculum revision and curriculum development in all parts of the United States. A survey of 648 school systems in 1936 revealed that seven-tenths of all cities of 25,000 or more population, slightly less than half of those between 5,000 and 25,000, and one-third of those below 5,000 population reported enterprises in curriculum development.[1] Not only have cities been engaged in such enterprises, but several states such as Texas, Arkansas, Virginia, and California have initiated state-wide programs.

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[1] "The Changing Curriculum," pp. 1–2, Joint Committee on Curriculum, Department of Supervisors and Directors of Instruction and the Society for Curriculum Study, D. Appleton-Century Company, Inc., New York, 1937.

Most of these curriculum-revision programs show certain similarities and trends:[1]

1. There has been a break from the traditional curriculum both in content and organization of activities.
2. Teachers are taking a more active part in the program. It is now recognized that if curriculum revision is to be more than "paper" revision by experts, the classroom teacher must be in sympathy with, have an understanding of, and take an active part in the enterprise.
3. A mechanistic conception of learning involving the breaking down of general into specific objectives which are given grade placement and taught in an additive fashion, has been replaced by considering general aims as wholes which function at all levels.
4. There is a definite trend to integrate the curriculum through cooperative or unifying methods. Subject-matter divisions are being abandoned to some extent.
5. The textbook is receiving less emphasis, and is being replaced by many books and pamphlets used as references.
6. Subjects, especially "tool" subjects, are no longer being taught as ends in themselves but as a means to gaining understandings, appreciations, and attitudes.
7. The primary focus of the curriculum is being shifted from the past to the present and future.
8. Minimum essentials are now including the development of attitudes, appreciations, and generalizations desirable for an understanding of the important institutions and problems of everyday life.
9. There is a trend to include controversial issues in the curriculum, or to consider those problems for which there is no authoritative answer.
10. Creative expression, pupil initiative, and rational freedom are being introduced as contrasted with teacher-dominated situations in which pupils followed set patterns and initiative was discouraged.
11. Guidance programs are being made an inseparable part of the regular teaching process.
12. Extracurricular activities are being made a part of and are being integrated in the curriculum rather than being treated as something extra.

The close agreement among various curriculums which have recently been reorganized represent agreements in trends and curriculum thinking rather than a uniformity in practice.[2] Not all the newer curriculums show all of these features but they do reveal trends in the same general direction. There is more agreement as to what activities should be included than in how to organize them.

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[1] *Ibid.*, pp. 11–17.

[2] *Ibid.*, p. 18.

What Is an Integrated Personality?—Youth is constantly being confronted with life-adjustment problems. His only criteria or guiding principles for the solution of these problems are derived from his own goals or purposes in life. The achievement of these goals acts as a stimulus, and satisfaction is found in their achievement. Conflicts occur, and youth becomes maladjusted when there is a lack of harmony between interests, desires, and needs as opposed to capacities and opportunities. If the environment remains relatively constant youth may learn to adjust themselves; but if it changes, readjustments must be made. Due to the changing environments of man, in one or another of his activities, one must learn to be flexible.

To be integrated, one must maintain a constant harmonious adjustment between his drives or purposes and his personal equipment, and between his moral, physical, social, and aesthetic lives. Pupils develop abilities in their various types of activities which are directed toward meeting life situations, but these abilities do not necessarily result in the integration of the individual. "Each ability developed must fit into a pattern of life that is formed around some central life purpose or goal. This central life goal is a gradual development; it is a dynamic evolving pattern of life that determines, in the large, the way in which the individual meets various situations; to be really effective, it must be both individually satisfying and socially effective."[1] An integrated curriculum is merely one which helps pupils develop an integrated personality. The evaluation and success of the school environment must be measured in terms of the extent to which integrated personalities are developed.

Evidence of the Failure of the Traditional Curriculum to Produce Integration.—Life-adjustment problems do not come in little subject-matter packages. It would be almost an impossibility for one to find a problem involving one subject only for its solution. If pupils are taught to solve problems and to develop integrated personalities, it cannot be done by dividing the phases into small parts, isolating and presenting them at different times and places, and expecting pupils to reassemble the phases for use when needed. For the pupil to do this would involve a great ability to transfer materials learned in one situation to that in another, and also to be able to organize the materials for use.

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[1] Arthur J. Jones, E. D. Grizzell, and Wren Jones Grinstead, "Principles of Unit Construction," p. 31, McGraw-Hill Book Company, Inc., New York, 1939.

The chief psychological theories on which the traditional curriculum was based, namely, mental discipline, as well as the faculty theories, have been abandoned to a large extent, and it is doubtful whether they can be used to justify the existence of courses of little worth in and of themselves. No longer can the average child be expected to apply the facts taught in the classroom to life situations without assistance, for transfer does not take place automatically by the miraculous process of studying something hard, uninteresting and unrelated to life. Furthermore, the suspicion is growing that the classification of information into subject-matter compartments is impeding this process.[1]

An excellent statement of the manner in which the traditional curriculum presents materials in an unrelated manner is presented in the Report of the Committee on Correlation of the National Council of Teachers of English:

> Under the elective system, students go through school with the most scattered and lopsided views of life, and even when elections are reduced to a minimum and a set program of studies required, failure to correlate the various subjects of instruction leaves the student unaware of their connection as related parts in the scheme of life. He studies algebra, history, chemistry, German, English literature, and the rest without seeing that these are really just the pieces in a great picture puzzle which, if assembled, will reveal the image of the world.[2]

To "integrate" means to retain unity or bring together the various parts to form the organized whole. Life's problems are already integrated; they are disintegrated when they are isolated from their natural setting and subdivided for instructional purposes. In the traditional curriculum the various parts of life's activities were separated and presented to pupils with no clue as to the pattern or design into which they might be organized for use. This method implied that pupils would be able to organize their own materials when problems were encountered, while the probability is that without aid they would no more be able to use their mass of unorganized facts and concepts than one would be able to assemble the parts of a watch without previous instruction.

Modern curriculum revision is tending toward the presenting of materials in an organized and unified manner. Pupils are helped

[1] Oliver R. Floyd, Lucien B. Kinney, and S. E. Torsten Lund, The Unified Curriculum, *The Phi Delta Kappan*, **18** (March, 1936), pp. 203–209.

[2] Ruth Mary Weeks, "A Correlated Curriculum," p. 1, D. Appleton-Century Company, Inc., New York, N. Y., 1936.

in the selection of worthy goals. They are aided in solving life-adjustment problems, and in measuring their progress toward their solution and toward their goals.

The following sections will present a few typical examples of progressive methods of integrating the curriculum.

METHODS OF INTEGRATING THE CURRICULUM

Methods of integrating the curriculum may be divided into three divisions which are closely related: (1) those producing integration through a change in techniques and methods which do not involve the modification of subject-matter organization, (2) those involving the reorganization of the subject matter in a single course, and (3) those involving a reorganization of subject matter in two or more courses. The last two also require a change in the methods and techniques of teaching if the new organization of experiences is to be efficacious.

Integrating the Curriculum by Changing the Techniques and Methods of Teaching.—Securing integration by a change in techniques and retaining an organization by subjects may be achieved by *incidental or systematic correlations.* There are several degrees and types of these forms which, in order of their degree of cooperation among teachers, are called "participation," "cooperation," "coordination," and "concentration." The first two are incidental; the latter two, more systematic.[1]

Participation or Incidental Correlation.—To some extent, varying greatly with different teachers, incidental methods of correlating the curriculum have been practiced for years. Incidental correlation may be practiced in many ways:

1. When facts are presented, or skills taught, they should not be separated from the context of a unit or series of events. Facts are not ends in themselves, but aids to an understanding.
2. Relationships between one subject and another, one fact or event and another, whether in the same or other fields, should be pointed out. Experiences should be related to each other and the relationships made known rather than isolated.
3. Pupils should be encouraged to generalize. Studies have revealed that in many cases the inductive method in which specific incidents are presented followed by generalizations by pupils results in more transfer

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[1] See A. E. Cross and Elizabeth Craney: "Teaching English in High Schools," pp. 34–46, The Macmillan Company, New York, 1939. Edgar Bruce Wesley, "Teaching the Social Studies, pp. 240–241, D. C. Heath and Company, New York, 1937, for methods of integrating the content of the curriculum.

than the deductive, in which one starts with a general statement and then finds specific instances.[1] This method consists of organizing and generalizing rather than routinizing in order that pupils might learn to utilize the products of learning.

4. Pupils should be encouraged to summarize. Summaries should bring together all the related experiences so the pupil can see them as a whole. Summarizing is organizing.
5. Teachers should not hesitate to go out of their fields for subject matter to enrich their own courses.
6. Facts and materials pupils are studying in one course should be related to other courses whenever possible.

The more each teacher keeps in contact with the work of all other teachers, the more one subject can be related to another. When all teachers work together, the form is called "cooperation."

Cooperation.—In the cooperation method of integrating the curriculum, all teachers keep informed of what their pupils are experiencing at the time in other subjects so each can relate her own work to that of others. This does not require any modification of subject organization, for the relationships made between subjects are made only when convenient or at opportune times. For illustrations, several specific examples may be mentioned:

1. Papers written in science or social studies may be marked first for content, then turned over to the English teacher for their English; and conversely, the English teachers may assign subject matter from other courses as topics for themes.
2. In debating and public speaking, subject matter from various fields may be used.
3. English teachers can teach pupils to read science, mathematics, history, and so on, as well as how to read poetry, drama, and novels.
4. History teachers can point out the relationships between scientific movements and events and social, political, and religious events. Likewise, science teachers can show how science has contributed to history.
5. In mathematics, the social background of materials involving quantitative aspects should be taught.
6. Mathematics teachers can teach those skills and concepts needed at the time in other subjects, such as science, economics, home and industrial arts.

Coordination.—The coordination method involves the reorganization of subject matter. A synonymous terms is "parallel organization," that is, as nearly as possible, all teachers are pursuing different phases of the same general material at the same time. This requires careful planning and is a systematic form of securing integration. Coordination can be accomplished much better if the content of each subject is first organized into units or topics, preferably the same scheme being selected about which to organize the materials of each subject. Examples of such topics or units are communication, transportation, and securing a food supply. Various phases of these units are presented at the same time in different subjects. Since all subjects do not make equal contributions, to maintain an even front teachers may either study further into related materials, or pursue other materials until all teachers are ready for a new unit.

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[1] Robert W. Frederick, Clarence E. Ragsdale, and Rachel Salisbury. "Directing Learning," p. 119, D. Appleton-Century Company, Inc., New York.

Concentration.—Like the coordination method, the concentration method requires a reorganization of materials within each subject. In this plan, some subject such as the social studies is selected to become the core or nucleus of the entire curriculum, In this manner everything taught in any course, being related to the one course, becomes related to everything else being taught. The social studies furnish the best concentrating subject, for the majority of other subjects have a social background, have economic importance or implications, are socially useful, and have historical development.

Integration Secured by Transcending Subject-matter Divisions.—The methods involving the transcending of subjects are known as fusion and unification. Fusion is usually confined to the combining of two or more subjects as history, geography, economics, and sociology; or science and mathematics, while unification means the breaking down of all divisions and fusing the entire curriculum. In the attempts made to ignore subject divisions the unit method of organization has usually been employed for presenting materials. There are various bases used for guiding teachers in building the units and selecting the materials, but there is much similarity between the units selected by various groups employing different bases. The core curriculum is usually taught through units which involve the social studies, science, mathematics, and English and include art, music, and physical education when they are needed for a complete understanding of the unit. Integrating the curriculum by unifying, or fusing various subjects, will not, merely by this change in the organization alone, produce desired results. It merely facilitates growth and the attainment of desirable ends. The success of any integrated program depends, in a final analysis, upon the teacher and the techniques employed in directing learning. Good teachers do not need unification; poor ones will not integrate even if the curriculum is unified.

Nearly all social and economic problems involve many subjects in their solution. Under the subject organization, teachers are more reluctant to introduce subject matter outside their own fields in the solution of a problem, either because of a lack of knowledge or a feeling that other phases are the work of other teachers. The integrated curriculum facilitates the cutting across of various subjects, but at the same time requires a different type of training for teachers. The extreme specialist, especially in the junior high school, must either be replaced or be retrained in a more liberal manner.

The Unit.—The unit is by far the most widely accepted and universally adopted method of organizing materials for instructional purposes in those schools engaged in curriculum revision. Because it brings together all related materials so they may be presented in close succession, relationships are more easily seen, and integration facilitated.

The unit is an outgrowth of several former methods of organizing and presenting materials as the project method, and the Dalton contract method. There are several concepts of units or several types. Morrison, who stimulated interest in the unit, defined it as "a comprehensive and significant aspect of the environment, of an organized science, of an art, or of conduct, which being learned results in an adaptation in personality."[1] In this concept of the unit, the basis of unification is found in the subject matter itself and the organization is logical.

Another type is the center-of-interest unit. This type may be defined as a series of related activities or experiences centering about a central theme, designed to realize some dominant purpose, without respect for subject-matter lines. In this concept subject matter may be drawn from any field. The unifying basis is a central theme of pupil interest.[2] This type of unit is employed in the Arkansas and Virginia state courses of study described later in this chapter.

Jones, Grizzell, and Grinstead describe still another type of unit called the "unit of adaptation."[3] It is described as a "group or chain of planned, coordinated activities undertaken by the learner in order to obtain control over a type of life situation."[1] The unifying basis is the learning product to be achieved. It is an integrated combination of factual information, skills, habits, and attitudes that will result in an adjustment of the individual to a life situation. Various abilities are to be built up in unified patterns, rather than as isolated independent entities, and all activities are directed toward goals and purposes of the pupil.

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[1] H. C. Morrison, "The Practice of Teaching in the Secondary School," pp. 24–25, rev. ed., University of Chicago Press, Chicago, 1931.

[2] See Jones, Grizzell, and Grinstead. *op. cit.*, pp. 14–15.

[3] *Ibid.*, pp. 19–22.

Characteristics of Functional Units.—A functional unit is one which will produce the desired outcomes stated in terms of objectives. It must produce a modification of behavior. Units are not phases of subject matter to be learned, but subject matter is employed to produce growth. Characteristics of a functional unit formulated by Trillingham are:[2]

1. It recognizes immediate needs and interests of pupils.
2. It possesses social significance.
3. It has unity, as it is organized around a central interest or problem; it is not just a hodge-podge of miscellaneous subject matter.
4. It is comprehensive, as it utilizes a desirable and natural fusion of the various subject fields, permitting the use of pertinent content from the wealth of possibilities.
5. It has continuity in that it relates to the preceding and the following units.
6. It involves reading materials and learning activities suited to the varied maturity and capacity of pupils.
7. It makes of the classroom a laboratory for constructive work rather than a mere place to recite.
8. It stimulates progress in those phases of the tool subjects which are the natural part of it.
9. It offers opportunities for pupil participation in planning, executing, and evaluating the work of the unit.
10. It improves the pupil-teacher relationship by making the teacher a co-adventurer with the pupils.
11. It contributes to the development of wholesome social habits and attitudes on the part of pupils.
12. It equips the pupil with concepts, generalizations, or technics which may be applied to other situations.

Procedures in Planning Units.—The accepted philosophy of secondary education, together with its aims and functions, should be the basis for selecting a complete list of logically organized activities and experiences pupils are to have in the secondary school. From this master list of activities, units may be developed, various experiences, activities, and subject matter being utilized to develop the unit and achieve the previously determined outcomes. Some steps commonly suggested in unit planning are:

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[1] *Ibid.*, p. 19.

[2] C. C. Trillingham, Earmarks of a Functional Unit, *Journal of the National Education Association*, 24 (December, 1935), p. 282.

1. Make an inventory of possible interests, abilities, and needs of pupils for whom the unit is intended.
2. Make a list of possible units or problems to be taught indicating areas of life interests in which each functions.
3. From this list select one which best meets the characteristics of a functional unit:
    a. Determine the goals or purposes of the pupils which will determine the dominating idea or central theme.
    b. List aims or outcomes.
    c. Select a title.
4. Plan the development of the unit:
    a. List a number of orienting experiences or approaches.
    b. List a wide variety of possible activities to give breadth.
    c. List subject matter, materials, and equipment for enriching the different activities.
    d. Formulate a plan for apportioning the work.
    e. Anticipate pupils' questions which may arise and plan means of helping them obtain material with which to make intelligent answers.
    f. List a few culminating activities.
5. Index sources of subject matter, materials, and equipment for both the pupil and the teacher.
6. List possible methods of evaluating outcomes.

Unifying Centers.—Unification proposes to find a common element, or link, between all the seemingly unrelated activities a pupil may have at school. If it is to succeed it must be natural, that is, all elements must fit naturally and logically into the unifying scheme. There are several bases for selecting and organizing units. If all teachers follow the same general basis, coordination may be facilitated, for all will be pursuing parallel subject matter. Some of the bases employed in various curriculum revision enterprises are:

1. *Basic Needs.*—The Unified Curriculum of the University of Minnesota High School was centered around seven fundamental needs of man: food, shelter, communication, mobility, cooperation, passing on our heritage, and mental and spiritual life.

2. *Centers of Interest.*—The core-curriculum activities of Arkansas and Virginia are organized about centers of interest. These centers were selected as representing the forces, agencies, and institutions in society that modify the major functions of social life. The centers selected by each state will be presented later in the chapter.

3. *Social Functions.*—The curriculums of the Burbank, Calif., elementary schools, and part of the secondary schools, are based on social functions, or an analysis of social living. The human activities about which all curricular experiences are grouped are: production, distribution, consumption, communication, transportation, protection and conservation, leisure time, aesthetics, ethics, and education.[1]

4. *Community Centered Curriculum.*—The Holton, Kan., High School, integrates the social studies, English, and art in the seventh and eighth grades, about the community. All units selected are focused upon some phase of man's progress and are closely related to the lives of the students in the community.[2]

These are only a few of the unifying or integrating bases which have been employed. The one common feature of all bases fo selecting units, whether it is on social themes, basic needs, socia functions, or centers of interest, is that all are centered on huma activities, and have possibilities in socializing, vitalizing, and integrating the curriculum.

In order to illustrate the procedures suggested in the selectin and planning of units, a typical unit will be presented.

TYPICAL UNIT:
THE CONSUMPTION OF UTILITIES

Approach or Point of View.—All persons are consumers o various commodities, such as food, clothes, machines, and fuels Knowledge and skill are required in consuming certain commoditie such as gasoline, oil, coal, natural gas, electricity, and water. I these utilities are poorly consumed it will result in inefficiency waste, increased bills, and in the case of gas and electricity, carelessness or lack of knowledge may cause injury or destruction of property by fire. The efficient consumption of utilities is not only a individual matter, but concerns society as a whole. Nearly a utilities represent natural resources, and if they are wasted by indi vidual consumers society will suffer. This may be seen in the uneconomical use of water during times of drought.

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[1] "The Changing Curriculum," Joint Committee on Curriculum, *op. cit.* p. 234.

[2] *Ibid.*, pp. 246–248.

Objectives and Outcomes.—The general or ultimate objective is mainly worthy home membership with some minor emphasis on health and vocations, and incidentally in developing fundamental skills in science and mathematics. The specific outcomes to be achieved are:

1. To gain a knowledge of the various units for measuring fuels and how to apply them.
2. To gain a knowledge of the various units for measuring the heat value or efficiency of various fuels.
3. To gain a knowledge of how fuels may cause injury or destroy property.
4. To develop a skill in consuming various fuels as economically and efficiently as possible.
5. To acquire a skill in making minor repairs in home appliances.
6. To develop the habit of being economical in consuming utilities.
7. To gain a respect for, but not a fear of, electricity and gas, in order that one will not become either careless or nervous in handling them.
8. To gain an appreciation of the services being rendered by economic institutions in bringing these commodities to our homes.
9. To develop an attitude of the conservation of natural resources for the welfare of society.

Activities.—A few activities designed to achieve the desired outcomes are suggested:

1. List the electric and gas appliances in your home.
2. Determine the current or gas consumed by each one, and the unit cost of each for one month.
3. Locate the gas, water, and electric meters in your home, and learn to read them.
4. Examine the bills for utilities which are rendered each month.
5. Make a table in which is shown the fuel value, cost, and percentage of ash for various grades of coal.
6. Determine which is the most economical for your furnace (if you burn coal). Reading materials will be supplied which will aid in the solution of this problem.
7. Compare the costs of heating by means of coal, gas, oil, and electricity.
8. Make a table in which is shown the relative costs for three types of electrical appliances: lighting, heating, and motive power. Show these values by bar graphs.
9. Make a list of ways to save gasoline while operating an automobile.

10. Determine the sources of water, gas, coal, and gasoline used in your home.
11. Estimate the probable length of time these sources will last.
12. List the ways by which economical consumption of utilities will aid society as well as the individual.
13. Learn how to adjust the mixer on gas stoves and ranges so that the most efficient flame will result.

Culminating Activity.—The culminating activity is one which articulates the work of the entire unit and which involves all of the pupils. The nature of some units is such that one is easily selected, while in others considerable ingenuity is required. A suggested one in the present unit would be a pupil demonstration of the most economical and efficient manner of consuming various fuels. This may be presented to the class and other classes or groups invited to observe, or a trip might be made to the offices and plants of the utilities companies.

Evaluating the Outcomes.—One of the most important phases of the unit idea is that of evaluating the outcomes, not that this had not been done in other methods, but because there was a feeling that it was not being done adequately. Of the three types of outcomes—factual knowledge, habits and skills, and attitudes and appreciations—the first, factual knowledge, received the majority of attention in the past with a neglect of the other two. Skills, habits, attitudes, and appreciations do not lend themselves readily to pencil-and-paper testing techniques, so in order to evaluate them, other techniques must be employed. Some of the devices employed in measuring these less objective or less tangible outcomes are:

1. Objectively, that is with pencil-and-paper tests. The usual types of objective test items may be employed.
2. Subjectively, that is, by observing pupil responses and activities. Some of the observable activities are:
    a. Demonstrations or "experiments" performed.
    b. Oral reports given in class.
    c. Written reports.
    d. Books, articles, or pamphlets read.
    e. Number and type of observations made at home.
    f. Interest displayed in class activities.
    g. Skill in manipulating various types of appliances.
    h. Skill in reading meter dials and computing costs.

These observations, when recorded for each pupil, constitute what is commonly referred to as an anecdotal record. Only a few significant activities should be recorded, for if all activities of pupils were recorded they would constitute a mass of materials which could not be evaluated. If the average teacher, with from four to six classes a day, attempted to keep detailed records of all pupil activities, she would soon be reduced to a bookkeeper and would have little time left for teaching.

An evaluation of the unit and the method of presenting it is also essential. Immediately after the unit is completed, it should be revised in the light of the experience gained. The revision will affect the time devoted to it, the activities, and the method of presentation.

Maintaining Continuity.—Unless care is exercised, the "unit" will become as watertight as the subjects which it was designed to break down, and by so doing, will become stereotyped and rigid. This will happen when units are presented like isolated bits of subject matter unrelated to any previous or subsequent experiences. To avoid this, each unit should be taught as a part of a still larger unit, and continuity should be maintained throughout several school years introducing different phases as maturity and experience are acquired, and at the same time making each part a complete experience for the benefit of those who drop out.

The unit on the consumption of utilities is merely a part of a still larger one concerning the consumption of all commodities. Various phases of the consumption of goods may be presented as an organized whole in each grade. The phases selected will depend upon the maturity, needs, previous training, and interests of the pupils. To consider the consumption of gas one year, electricity the next, and coal the next would destroy unity. Some of this material should be presented in each grade but from a different point of view. Consuming utilities is merely one phase of home life and is closely related to the purchasing, preparing, and serving of food, and also intelligent purchasing and use of other commodities. Securing basic commodities involves commerce, trade, barter, money, banking, transportation, and international relationships. In various grades, different phases of the much larger unit, involving one's whole life, or society as a whole, may be presented.

CONTRIBUTIONS OF VARIOUS SUBJECTS TO UNITS IN AN INTEGRATED CURRICULUM

In any unit various subjects may be employed to give one a better understanding of social and economic institutions, and in solving life-adjustment problems. All problems have many phases as the qualitative, quantitative, economic, personal, and social. Before they can be thoroughly understood and solved, all these phases must be considered. This means that many subjects are necessary and that each makes a definite contribution. An example of this may be found in the unit "Our Tax Dollar." The social side involves the establishment and maintenance of many institutions necessary to supply man with his basic needs, which give service to society as a whole, and are too expensive to be maintained privately. Such institutions are the school and police force. Another point of view is that from the individual and the personal benefits derived. If the problem of where and how our tax dollar is spent is considered only from the qualitative and emotional side, pupils will decide whether or not taxes are too high on the bases of their limited observations and experiences or in terms of what political party is in office. If quantitative thinking is introduced and the actual cost of all benefits derived from taxes is matched against what the individual would have to pay for the same services on a private basis, an entirely different conclusion will probably be reached.

The Social Studies.—Since the social studies involve economics, sociology, history, political science, and geography, they become the core or the approach to many or most units. The social studies, with the exception of separate courses in history, can be taught wholly in units in the core curriculum. It is the social background and point of view which gives meaning, significance and vitality to a unit which otherwise would be divorced from the realities of life. A pedagogical method of presenting each unit is to begin with the present, and then show the development in order to understand how the present situation evolved.

Science and Mathematics.—There are few units which do not involve science and mathematics. The two go together, for unless mathematics is applied, it becomes a pure abstract science having little place in the secondary school, and when science loses its quantitative aspects it is no longer a science. Units involving transportation, communication, getting a pure food supply, consumer education, utilities, measurement, and conservation of natural resources all require science and mathematics for a complete understanding. An example of the contributions of the social studies, science, and mathematics may be found in a unit on communication. This is too broad for a single unit, and may be subdivided according to media, as the telegraph, telephone, radio, and mail service.

Considering the telephone, the social side involves the use of this medium of communication for social purposes, for the transaction of business, to secure aid, help, or assistance, and as the medium for the dissemination of current happenings. In the genetic development of communication, history makes a contribution. International relations are involved in all forms of communication.

Studied from a scientific angle, the actual construction of a telephone and the functioning of the various parts is considered. Too often the scientific approach is from the point of view of developing skill in either repairing or constructing phones, but this is not the primary outcome to be achieved. A knowledge of how a telephone operates, the connecting of all cities, homes, and countries with wires, the complicated wiring of a switchboard, the mechanical operator or dial system, accomplishes two major purposes: it satisfies the curiosity most youth have as to how telephones operate, and, still more important, it is the medium for developing an appreciation of the services rendered by the system, and a respect for those whose ingenuity produced it. It is only incidental that a few youth may want to pursue some phase of it as a vocation, or acquire a skill sufficient to build a working set as a hobby.

A complete appreciation of the service rendered is not gained until one has considered the cost of laying the lines, operating the switchboard, installing the phones, and the cost of owning a phone. Various types of rates can be compared; the cost of long-distance services both day and night can be computed, and by so doing additional respect is gained for one cannot help but be amazed that he can rent millions of dollars worth of equipment to hold a personal conversation with a friend many miles away, at a cost of only a few cents. Skill in making and reading graphs can be acquired by graphically representing the differences between cities, states, and nations in the number of phones owned per 1,000 population.

English.—English makes a contribution to the unit on communication for instructions are needed as to how to hold a conversation on the phone and how to use a telephone directory. This is, of course, a very limited concept of English in communication, for speaking and writing are essential elements in English. Writing letters, both business and friendly, and telegrams and the ability to employ good English in a conversation are essential contributions of English to the core curriculum.

English should not be "dragged" into a unit any more than any other subject. If a logical, natural place for it does not exist, it is not desirable to go out of the way to make a place. The question is often asked "If a certain topic should be taught, but there is no place for it in any of the units, what should be done?" If it is definitely believed that a certain phase of subject matter should be in the core curriculum, and no unit logically includes it, then it should be taught separately either as a unit in itself or isolated from any social setting.

Unifying the curriculum means that all curricular activities are considered at the same time from the same point of view. English may be taught separately from the units in the core, and still be unified with it by paralleling the core units. Often the English teacher may use the reading materials of a unit as a basis for teaching reading, or may consider certain selections in literature which will give a background and breadth to the unit. Biography, historical novels, and certain poems may be selected which parallels the social studies, science, and mathematics content. The full responsibility for the teaching of English should not be delegated to one teacher. All teachers should make corrections in oral English, help increase and improve vocabularies, and demand the same standards for written work as would be expected by English teachers.

Art.—Most of the machines, equipment, and appliances in a home can be made to operate efficiently without respect to their artistic appearance, but Americans prefer their machinery to be artistically as well as efficiently constructed. Some persons define art from the standpoint of utility; that is, that which best serves the purpose for which it is made is most artistic. From another point of view, art is creation, regardless of how simple or crude the article created might be. These principles are true of food, shelter, furnishings, and clothing. From a pure utilitarian point of view, food serves no other purpose than to give nourishment; shelter, to protect one from the elements; and furniture is solely for comfort; but again, if these necessities are designed artistically, they serve the double purpose of being useful and of giving satisfaction of one's aesthetic sense. Thus art has a natural and important place in the core curriculum.

Examples of the place of art are found in units on clothing, food, and shelter. The selection of a pattern or style in dress as well as the wearing of clothing is an art. Food is more appetizing if served in a colorful and attractive manner, and many of the best artists are devoting their talents to architecture. Home furnishings have become an important matter for consideration in the school, and the matching and blending of colors, the selection and identification of period types and designs of furniture, the choice of patterns in glass, china, silver, and pewter are all important elements in worthy home membership. Art can also be carried into the beautification of one's lawn, street, and entire community.

These phases of art have often been neglected, and consideration of them does not preclude additional work in art for those displaying an interest and talent. The core-curriculum requirements do not demand any more than the average amount of artistic ability, but if pupils who possess more are discovered, they should be given an opportunity in the electives to get additional training.

Emphasis on the arts in the core curriculum is on intelligent *consumption* rather then *production.* For every producer there are thousands of consumers, and the latter are just as important as the former. Education for consumption places emphasis on appreciation rather than on skill in production.

Other Subjects.—Subjects such as music, home and industrial arts, and physical education usually maintain separate organizations even in those schools unifying the core content. This does not preclude their making a contribution, for in many units phases of these subjects are logically included. These are mostly skill subjects and, although some of the skills will be learned incidentally in units, a complete mastery requires a separate organization.

The phases of music related to core units are those pertaining to folklore, or the characteristics of a people as described through their songs. The actual production of music and the development of appreciations involve skills which must be taught separately. Phases of home and industrial arts related to the selection and preparation of food; furnishings, and their maintenance; clothing; and consumption of utilities may be easily integrated; but skills in cooking, sewing, and manipulating tools must be isolated and taught as separate organizations. This does not mean that skill subjects should be taught as ends in themselves. They must be taught as means to an end, and integration achieved by incidental and cooperative methods.

Drill in Fundamental Processes.—If possible, fundamental skills in arithmetic, English, and science should be acquired in context form, for otherwise they might be taught as ends in themselves rather than means to an end, and pupils may miss their applications and relations to life; but if they cannot be taught in contextual form they should be isolated and studied independently.

Pupils who show deficiencies in fundamentals during the study of units should be required to attend a class devoted to remedial treatment. The drill in this class should not be prescribed until a thorough diagnostic treatment is given and then made to fit the individual. Pupils should not be required to remain in the remedial class any longer than is necessary to overcome deficiencies. The class may be taught jointly by the mathematics, science, and English teachers according to the needs of the group. In order to socialize and vitalize the drill, the material may be related to life-adjustment problems in which the fundamental operations are involved, but emphasis must be placed on the process and not the problem, as contrasted with the place of skills in the unit core curriculum.

Initiating Fused and Correlated Courses.—Because of administrative difficulties, it is often difficult to initiate a completely integrated program abruptly. A beginning may be made by combining, fusing, or correlating two or more rather closely related fields, as science and mathematics, and, after these have been integrated, include other broad fields.

Integrating science and mathematics is easier than separating them. Science can hardly exist without quantitative aspects, and it is better understood through the medium of mathematics. The two developed together because of a social need; it was man who separated them for purposes of study. The social studies are easily integrated with either science and mathematics, for a study of democratic institutions involves many fields.

Composite or General Courses.—Combining separate divisions of a broad field into a composite course has been practiced for some time, as general science, general mathematics, home economics, social studies, and English. Each of these was formerly broken up into many divisions and when first combined each division maintained its identity. Slowly, true general or composite courses are being evolved.

Difficulties Encountered in Integrating the Curriculum.—The difficulties encountered in attempting to integrate the curriculum arise from inertia or lack of sympathy for the movement on the part of teachers or patrons, the lack of trained teachers, and the lack of suitable reference materials and equipment. The traditional curriculum and methods of teaching are deeply rooted in the lives of teachers and patrons. There is a great tendency for teachers to retain the methods with which they are most familiar. To change to an integrated curriculum involves study and constant growth.

The teacher who is educated as a specialist is not so desirable in an integrated curriculum as one who has a more liberal education. A knowledge of related subject matter is essential. One may be a specialist in his field and still not know where or how his subject is related to life or to other subjects.

In many schools, textbooks are almost the only source of material. These are usually inadequate in teaching by the unit method. If schools are to integrate the curriculum, libraries must be built containing a wide variety of suitable materials. Many desirable units cannot be taught in some schools because of a lack of suitable materials.

EXAMPLES OF INTEGRATED CURRICULUMS

The general description given of the various types and methods of integrating the curriculum will be better understood by presenting outstanding examples of correlated curriculums. Those presented reveal the bases and devices employed for correlating curricular experiences.

An Integrated Curriculum Based on Centers of Interest.—The Arkansas Cooperative Program to Improve Instruction suggests a curriculum for six-year high schools in which the core content is organized into units which unify science, mathematics, English, and the social studies.[1] The unifying basis is about centers of interest.

The plan proposes that the secondary schools be organized for admininstrative and instructional purposes into two definitely related divisions: the core curriculum and the special interest subjects or broad fields. The core curriculum includes "the minimum of necessary experiences in personal and social adjustments to fundamental life problems which all pupils should have under the guidance of the school."[2] This includes the basic concepts and the fundamental skills necessary to the application of these concepts in the every day life of the individual. The special interest subjects or broad fields provide other experiences to take care of individual interests and needs in particular fields such as mathematics, science, language arts, practical and fine arts.

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[1] A Tentative Course of Study for Arkansas Schools, *The Arkansas Cooperative Program to Improve Instruction*, *Bulletin* 5, State Department of Education, Little Rock, Ark., 1936, 292 pages.

[2] *Ibid.*, p. 33.

TABLE 48

SUGGESTED PROGRAM OF STUDIES FOR SIX-YEAR HIGH SCHOOLS*

Core curriculum				Broad fields or special interests	Periods a week
Life-adjustment problems	Periods a week	Parallel skills and appreciations	Periods a week		
Grade 7					
Core course (English, social studies, science, mathematics)	10	English	3–5	Fine arts	5
		Mathematics	5	Industrial arts	5
				Home economics	5
				Agriculture	5
				Physical education	2–5
Grade 8					
Core course (English, social studies, science, mathematics)	10	English	3–5	Fine arts	5
		Mathematics	5	Practical arts	5
				Home economics	5
				Agriculture	5
				Physical education	2–5
				Foreign language	5
Grade 9					
Core course (Social studies, English, science)	10	English	2–5	Fine arts	5
		General science	2–5	Practical arts	10
				Agriculture	10
				Home economics	10
				Physical education	2–5
				Foreign language	5
				Mathematics	5
Grade 10					
Core course (Social studies, English, some science)	5	English†		Fine arts	5
				Practical arts	10
				Agriculture	10
				Home economics	10
				Physical education	10
				Biology	7
				Foreign language	5
				Mathematics	5
				English†	5
Grade 11					
Core course (Social studies, English, some science)	5	English†		Fine arts	5
				Practical arts	10
				Agriculture	10
				Home economics	10
				Physical education	10
				Commercial subjects	5–10
				Chemistry or physics	7
				Foreign language	5
				English†	5
				Mathematics	5
Grade 12					
Core course (Social studies, English, some science)	5	English†		Fine arts	5
				Practical arts	5
				Agriculture	10
				Home economics	10
				Physical education	10
				Commercial subjects	5–10
				English†	5
				Chemistry of physics	7
				Foreign language	5
				Mathematics	5

* *The Arkansas Cooperative Program to Improve Instruction, Bulletin* 5, State Department of Education, Little Rock, Ark., 1936, p. 30.

† English in grades 10, 11, and 12 is a part of the core course and it is also a broad-field course. In other words, much English in the broad fields is so closely related to the core course that it is listed as a part of the core. No specific number of periods a week is assigned to the parallel skills and appreciations in English. The time devoted to the phase of English in the senior high school should vary with the needs of the classes.

The core course is divided into two parts with the following designations: "Life-adjustment problems" and "Parallel Skills and Appreciations." In the former division, socially significant problems are considered, the solution of which should aid pupils in their adjustment to civilized social living. Many of the skills necessary for life adjustment will be acquired incidentally through the study of "Life-adjustment Problems." This is the ideal manner for acquiring skills, and most of them, in time, could be acquired through units but many skills in English and arithmetic are learned better and quicker by being isolated and studied from their context. These are organized and presented at a special period and called "Parallel Skills and Appreciations." A complete program of studies for a six-year high school is presented in Table 48 in which is shown the grade placement of the core curriculum and the broad fields.

The major functions of the core curriculum are:[1]

1. To provide worth-while social activities and experiences.
2. To lead all pupils to acquire those basic appreciations, understandings, habits, and skills needed by everyone in making daily adjustments, social and personal, to fundamental life problems.
3. To give opportunities to all pupils for such integrations of skills, habits, and knowledge in terms of human experiences as will aid them in developing socially useful, integrated personalities.
4. It should help pupils to discover or realize their individual interests, aptitudes, and needs for further experiences in special subjects in the broad fields.

These functions of the core curriculum furnish a basis for the selection of curricular activities, grouped around "centers of interests," which are defined as phases of group culture around which a variety of related interests group themselves. The centers of interest, more or less arbitrarily selected for the various years, are:[2]

1. *Seventh Grade.*—How man controls his natural environment and adjusts himself to it. Suggested problems around this center are:
   - *a.* Discovering the influence of weather and climate on the life of man.
   - *b.* Using the forces of air and water.
   - *c.* Using animals for man's welfare.
   - *d.* Using plant life for the needs of man.
   - *e.* Improving health through adjustment to natural environment.

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[1] *Ibid.*, p. 33.

[2] *Ibid.*, pp. 51*ff.*

2. *Eighth Grade.*—How invention and discovery have changed man's environment. Suggested units are:
   - *a.* Controlling our environment through conservation of natural resources.
   - *b.* Improving home life through mechanical devices.
   - *c.* Cooperating in social groups for civic purposes.
   - *d.* Controlling communicable diseases.
   - *e.* Providing pure food through scientific discovery.
3. *Ninth Grade.*—How society is developed through the agencies of the community:
   - *a.* Contributing to man's welfare through the agencies of education.
   - *b.* Maintaining a health program through the agencies of the community.
   - *c.* Developing the agencies of transportation and communication in relation to their effects on man's welfare.
   - *d.* Organizing and managing the community.
   - *e.* Paying for community services.
   - *f.* Providing for wholesome recreation.
4. *Tenth Grade.*—The rise of modern civilization and culture. Suggested problems:
   - *a.* Showing the influence of ancient culture upon western Europe.
   - *b.* Influencing society in the various ages through religious development.
   - *c.* Showing the development of society through the effects of great inventions and discoveries.
   - *d.* Changing the status of women.
   - *e.* Conserving human welfare by increased emphasis on health.
   - *f.* Protecting and conserving the heritage of the past.
5. *Eleventh Grade.*—The development of American civilization and culture. Suggested problems:
   - *a.* Developing a new world from the old.
   - *b.* Struggling for self-government.
   - *c.* Developing nationalism through westward expansion.
   - *d.* Developing an industrial system in the United States.
   - *e.* Showing the functions of education in a democracy.
6. *Twelfth Grade.*—Contemporary problems of American life. Suggested problems:
   - *a.* Organizing and administering our government—local, state, and national.
   - *b.* Discovering the rights, duties, and privileges of a citizen.
   - *c.* Improving home and family conditions in America.
   - *d.* Dealing with the problem of crime.
   - *e.* Tracing the sources and expenditures of the tax dollar.

As shown in Table 48, ten periods a week are devoted to the core curriculum of life-adjustment problems in the junior high school, and five periods a week in the senior division. Additional instruction in parallel skills, usually English and mathematics, is given only in the junior high school and comprises three to five hours a week.

The Broad Fields.—The broad fields or special interest subjects are definitely related to the core curriculum in that the experiences in the latter should be the basis for the expanding experiences in the broad fields. This does not mean that the broad fields will be a repetition of the core curriculum. The core will furnish the impetus or initial orientation into the more specialized fields, in which the pupils may delve as deeply as time, interest, and capacity permit.

The major functions of the broad fields or special interest fields are:

1. To provide worth-while social activities and experiences.
2. To lead all pupils to acquire those basic appreciations, understandings, habits, and skills needed by everyone in making daily adjustments, social and personal, to fundamental life problems.
3. To provide opportunities to all pupils for such integrations of skills, habits, and knowledge in terms of human experience as will aid them in developing socially useful, integrated personalities.
4. To help pupils discover or realize their individual interests, aptitudes, and needs for further experiences in special subjects in the broad fields.[1]

The subjects included in the suggested curriculum for the broad fields are: fine and industrial arts, home economics, agriculture, physical education, foreign languages, biology, physics, chemistry, English, commercial subjects, and mathematics. Since the core curriculum is built almost wholly around the social studies in the senior high school, they are not included in the broad fields.

The Core-curriculum Plan of Virginia.—The core-curriculum plan of Virginia is similar to the plan previously described, but differs in the basis for selecting curricular materials. The core-curriculum plan of Virginia employs the major social functions that can serve as integrating centers.

Philosophy.—The basic philosophy of the Virginia curriculum which was adopted as a guide in building secondary-school curriculums is expressed briefly in the following statements:[2]

1. The curriculum consists of all the experiences of pupils under the influence of the school.

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[1] *Ibid*, p. 33.

[2] Sidney B. Hall and Fred M. Alexander, The Core Curriculum Plan in a State Program, Chap. II in "A Challenge to Secondary Education," pp. 13–47, ed. by Samuel Everett, D. Appleton-Century Company, Inc., New York, 1935.

2. Education is the development of personality.
3. Progress is realized through guiding social change by intelligent human effort and choice.
4. All education has its orientation in the ideals of the culture and of the epoch in which it exists (American secondary education has its orientation in the ideals of democracy).[1]

Scope of the Core Curriculum.—The Virginia curriculum is based on the idea that no social event or institution can be compartmentalized exclusively as historical, economic, or political, and that the ideal of a changing democratic society cannot be realized through a study of separate subjects consisting of inert facts. Since all organized society achieved its purposes through well-defined functions, an analysis of these functions should serve as integrating centers for providing pupils with experiences. Eleven functions were selected: (1) protection and conservation of life, property, and natural resources; (2) production of goods and services and distribution of the returns of production; (3) consumption of goods and services; (4) communication and transportation of goods and people; (5) recreation; (6) expression of aesthetic impulses; (7) expression of religious impulses; (8) education; (9) extension of freedom; (10) integration of the individual; and (11) exploration.

Using these criteria as bases, an analysis was made to determine the forces, agencies, and institutions in society that modify the major functions of social life. These were given grade placement and called "centers of interests":[2]

1. *Grade* 8. Adaptation of our living through nature, social, and mechanical inventions, and discoveries.
2. *Grade* 9. Agrarianism and industrialism and their effects upon our living.
3. *Grade* 10. Effects of changing culture and changing social institutions upon our living.
4. *Grade* 11.[3] Effects of a continuously planned social order upon our living.

Core Fields.—Rather than employ any and all subject-matter fields which might contribute to a unit, Virginia selected the following broad fields of knowledge for the core curriculum: social studies, language arts, science for the four years of the secondary school, and general mathematics for the first year. Within these fields subject-matter lines were disregarded in order that pupils might develop unitary experiences. All pupils must pursue the core curriculum organized around these fields, and at the same time provision is made for pupils to elect the study of specialized, logically organized courses of study such as foreign languages and mathematics.

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[1] *Ibid.*, p. 25.

[2] *Ibid.*, p. 28.

[3] Virginia has a 7-4, rather than an 8-4 plan. The eleventh grade in that state is the senior year in high school.

A unique feature of this plan is that each of the broad fields is analyzed into "leads" to units of work, which are implications, suggestions, or guides to pupils in setting up objectives and selecting activities. Teachers and pupils work together in developing units of work, and interests of pupils related to the leads are considered in the construction.

The Unified Curriculum at the University of Minnesota High School.—The unified curriculum of the University of Minnesota Junior High School is an example of a curriculum organized about social functions. Although in many respects it is similar to other integrated movements, it has several unique features.[1] One of these is the basic outline which served as general guiding principles and basic generalizations. The approach to the development of units was that of man's basic needs which he must satisfy in order to survive in the struggle for existence. The needs were: food, shelter, communication, mobility, cooperation, passing on our heritage, and mental and spiritual life. The basic generalizations and guiding principles were:[2]

1. The objective of this curriculum is the development of an understanding of society, including the social institutions and the individual's relationship to these institutions.
2. The basic outline of the unified curriculum is organized around the genetic development of man's efforts to provide for seven fundamental needs.
3. The following aspects of each topic in the outline are considered basic:
    - *a.* Man's original equipment for meeting this need.
    - *b.* The modifications and substitutions which man has made to achieve his present control over environment.
    - *c.* The realization that society is constantly undergoing change.
    - *d.* The maintenance of an open-minded attitude toward future changes and modification which society may find necessary for survival and progress.
4. The social implications and contributions of the various subject-matter fields are of primary importance to children of the junior-high-

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[1] Floyd, Kinney, and Lund, *loc. cit.*

[2] *Ibid.*, p. 205.

school age and the study of social institutions and problems will, therefore, constitute the core of the curriculum.

5. Each field of subject matter is to be used as a means of teaching and interpreting those aspects which are most suitable to its point of view, method of analysis, or body of organized information.

Using the seven basic needs of man, a logical organization of subject matter was prepared which acted as a guide in developing units. The preparation of units followed four steps:

1. The presentation of a portion of the outline which could be presented as a whole.
2. The statement of objectives to be obtained in teaching the unit.
3. The outlining of the teaching materials which could best develop the objectives.
4. The delegation of responsibility for teaching each part of the outline to the department whose field was best adapted to its presentation.

One of the chief points of view in the selection and presentation of materials was that in order for man to provide for himself these basic needs, social, economic, and political institutions were established. Therefore, in order for pupils to learn how to live in modern society, an understanding and appreciation of these institutions is necessary. These understandings and appreciations were developed through the medium of the several broad fields. As one of the teachers in the school stated it: "The unit is the road, the subjects are the vehicle, and an integrated personality is the destination." One of the greatest advantages of the unified curriculum is that it prevents the subject from becoming an end in itself, which is one criticism of the conventional method of organization.

These units constituted the core of the curriculum and were pursued by each pupil for two periods daily. For those who had deficiencies in English, mathematics, and science, one period a day was devoted to drill to overcome these deficiencies. Those who did not require extra instruction to master basic skills could elect a foreign language. For the remaining periods of each day, all pupils engaged in activities, physical education, general shop, home economics, music, and art.

Ideally, one teacher should teach all phases of each unit, but actually, since it is impossible for one teacher to be equally proficient in many fields, it is better to divide the unit among two or more teachers, allocating to each those phases he can do best. This involves difficulties in scheduling, requires that several teachers be available during those periods, and requires close cooperation to provide continuity and prevent overlaps and omissions.

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CHAPTER XV

CURRICULUM PRINCIPLES

The curriculum is the most vital part of a secondary school. The selection of the types of activities provided for the pupils after they are enrolled in a high school is the greatest factor in determining whether or not the school will achieve its aims and functions.

There is considerable disagreement as to what experiences should be provided in the high school. There are those who believe that it does not matter what is taught, for one subject is as good as another. There are those who believe in the theory of formal discipline and are partial to such subjects as mathematics, formal grammar, and Latin. There are those who would, like the founders of the academy, include everything that is useful and ornamental, and finally those who believe that subjects such as languages and literature should be stressed mostly, as opposed to vocational subjects.

In the present chapter, general principles will be formulated for building or reorganizing the high-school curriculum in conformity with its aims, objectives, and functions previously presented. Before attempting this, a clarification of terms is necessary.

Definition of Terms.—The most common and frequently used terms employed in discussing the curriculum with the definitions used in this discussion are:

Curriculum.—In a limited sense the school curriculum is a systematic arrangement of courses of study designed to meet the needs of a pupil or a group of pupils. In its broadest sense it includes the complete school environment involving all of the courses, activities, readings, and associations with which pupils come in contact in the school. The various types of curriculums are designated as the commercial, college-preparatory, general, business, home-arts, and industrial. An individual curriculum for a pupil would include all the activities a pupil has had under the guidance and direction of the school.

Course of Study.—A course of study is an arrangement of detailed materials and activities selected from some broad field or fields of subject matter and arranged into topics, units, or lessons for instructional purposes. To differentiate between a course of study and subject, mathematics is a subject, but algebra I is a course of study, and science is a subject, while chemistry is a course of study.

Constants and Variables.—Constants are courses of study required of all pupils or required of all pupils pursuing a particular curriculum. The constants, when grouped together, are called the "core curriculum." Variables, or electives, are those courses of study which may be elected at the option of a pupil.

Program of Studies.—The program of studies is a list, by years, of all the courses of study and activities offered by the school.

The Unit of Credit.—The unit has been universally accepted as the standard for measuring the amount of credit earned in secondary schools of the United States. It is usually considered as comprising the credit earned for pursuing one course meeting five times a week for an entire year. Technically it requires a class attendance of 120 sixty-minute hours, or the equivalent. If the school year is 180 days, the class period cannot be less than 40 minutes to meet this requirement.

Types of Curriculums.—A high school which offers a large variety of subjects and makes no separation between vocational and cultural subjects is called a "comprehensive" high school as distinguished from the "commercial," "technical," "vocational," or "classical" high schools. The comprehensive type is far more common in the United States than any other. Comprehensive high schools are classified according to the number of curriculums they offer.

The great majority of small high schools offer a number of courses which all pupils must take. Often this number includes as high as 10 or 12 of the 16 units required for graduation, and in many very small schools pupils are required to take all the courses offered in order to earn the required units for graduation. Such a school has a single curriculum.

Schools with sufficient enrollment to justify an enriched program may have many curriculums which pupils may elect, as the classical, college-preparatory, general, technical, commercial, vocational, and trade-preparatory. This is the most desirable type, for it can meet the needs of all types of pupils. In each of these curriculums there is a number of required courses, and from four to six electives. The type of subjects elected determines the name given the curriculum, for the core curriculum of general subjects is common to all. Thus, these types of curriculums are not distinct and separated. The names simply describe the pattern of courses pursued.

Who Should Build the Curriculum?—The time is past when a few curriculum experts, by the "scissors-and-paste," or "their-own-opinion" methods construct curriculums and impose them upon teachers by virtue of administrative authority. The process of curriculum construction requires the united and cooperative efforts of all persons interested in and engaged in the education of youth, and unless teachers take an active part in curriculum construction they are not likely to be in sympathy with, or have an understanding of, curriculums constructed and proposed by others. The work is and should be headed by such educational leaders as superintendents, members of state departments of education, members of the staff of colleges of education, and curriculum specialists. Under the direction of these leaders, groups may be organized to study the aims and functions of education, to list the interests, measure the abilities, and determine the needs of youth, to make definite statements of the specific outcomes to be achieved, and to select appropriate activities for their achievement. Parents as individuals, or in organized groups, should take an active part in the work. As subgroups prepare various phases of the curriculums they should be reported before interested or participating groups who should criticize the work, and revisions should be made on the basis of these criticisms. This process should continue indefinitely for curriculum construction is a continuous task.

Curriculum laboratories are being developed in many places. These are often located at teacher-training centers, where teachers in service come to continue their education. Often, outstanding teachers are encouraged to take part in this work during summer school by offering them scholarships which pay tuition. The materials produced in these laboratories are usually made available to teachers of the state through bulletins published by the schools or state departments of education.

When and How Often Should Curriculums Be Revised?—Work toward the revision of the curriculum is a constant process. Some one has defined a school curriculum as the "residue after teachers stopped thinking." This means that if schools are to be progressive, the curriculum will never be completed. The reasons for this are numerous and have been discussed in a previous chapter. As long as the school population is changing and shifting, and as long as we have changes in economic, social, and political institutions, the school curriculum must be changed. Moreover, new developments in psychological theory continually suggest changes in method, organization, and content.

Many teachers modify their courses of study because of the stimulating effect of merely working on them. Within limits, this can be done. The same aims may be achieved in different ways. Different subject matter may be employed to produce the same outcomes; different methods and materials may be employed to secure the same results. In ideational subjects more freedom in the selection of activities can be permitted than in skill subjects, for the latter are more definite and have fewer variations.

INVALID BASES FOR SELECTING CURRICULAR MATERIALS

Curricular materials, subject matter, and activities in which pupils will engage cannot be selected without a sound basis, any more than a doctor can prescribe treatment for a patient without a diagnosis. There is room in the curriculum for only a limited number of activities and experiences. The school has control of the pupil for only a small part of his life, so it behooves educators to make as wise a selection as possible. The question logically follows, "On what basis should subject matter be selected?"

In the past, and in many cases in the present, many methods or bases for selecting curricular content which have doubtful value have been employed. Some of these methods are:

Formal Discipline.—One of the earliest and oldest bases for selecting curricular materials is that based on the doctrines of formal discipline and the faculty theory as explanations of the transfer of training. These doctrines, which were described earlier, led educators to believe that if a subject were to have value it must be difficult so as to tax the intellect to its greatest capacity. Such subjects as mathematics and foreign languages were supposed to be quite potent in this respect. Followers of these doctrines believed that it mattered little what one studied, so long as it was hard and distasteful, and possessed little practical value. The mind trained on such subjects would be able to function in any capacity.

Moral Training by Doubtful Methods.—Christianity has been a powerful influence in establishing schools and in selecting the content of the curriculum. Because of the great emphasis the Church placed on moral training and preparation for the ministry, such subjects as Latin and Greek, the Bible, and didactic stories were placed in the curriculum. A type of physiology stressing the evils of narcotics, strong beverages, tobacco, and forms of dissipation found its way into the school partly because of the influence of the Church. In the latter part of the nineteenth century moral training through the medium of didactic stories was in vogue. Almost every selection in the readers and materials of literature courses contained a moral designed to teach a lesson. The lesson was usually stated, not merely implied.

Political Influence.—In the United States, the curriculums of the schools have been relatively free from political influence, as contrasted with the school of Germany, Russia, and Italy where they are used as instruments of propaganda to perpetuate the existing political powers. In these countries all subject matter, all activities, and all school experiences are selected with this view in mind. Everything must be for the good of the state, not the individual. We do have laws requiring the teaching of history, health, and conservation of resources, but the courses of study are usually not prescribed in detail.

Maintaining Class Distinction.—The school curriculum has been employed in the past to maintain class distinctions by selecting materials on the basis of their cultural rather than their utilitarian or social values. To an extent many subjects offered in the academies were selected on this basis, especially in girls' schools. The curriculums abounded in such subjects as music, art, manners, dancing, foreign languages, and sewing, especially embroidery, crocheting, and knitting, not for practical purposes but because that was done in "polite" society for charity or for soldiers. A smattering of many things was taught, such as singing certain songs in a foreign language, reading a French menu, horseback riding, painting on silk, elocution, etiquette, excerpts from the works of scholars in order that quotations from them would lead one to believe the entire work had been studied. Usually enough Latin was taught that the pupils could intersperse their English sentences with Latin phrases which would impress the listener and shroud the meaning.

Tradition.—Gradually, subjects which were placed in the high-school curriculum for invalid reasons have either disappeared or been modified, or other values have been found or claimed for them. Tradition still plays a great part in keeping many in the curriculum. It is not uncommon to hear such statements as "A doctrine as old as formal discipline *must* have some truth in it," and "A subject which has been in the curriculum as long as a thousand years *must* have some good in it." An excellent satire on the reluctance of a people to reorganize the school curriculum and remove subjects once practical but no longer so because of a changed social order was presented by Benjamin in "The Saber-tooth Curriculum."[1] It relates, satirically, how the educators in the Paleolithic era invented such new values as formal discipline, mental training, and cultural values, for the three chief subjects in their school curriculums which were once practical, but which, because of the glacial period, were no longer so. Nevertheless, they were kept in the curriculum for hundreds of years.

It might be inferred from the previous statements that just because a subject or doctrine is old it has no value. This does not follow. Curriculum construction is a constant and never-ending task. Each generation must examine the social order in which it lives and make the school fit its needs. Each must establish its own goals, formulate its own objectives, and select activities to meet these. If elements of the past, as many do, have virtue for the present, they should be retained. There is no virtue in newness as such, nor can the old be condemned merely because it is old.

College Entrance Requirements.—Since the traditional purpose of secondary education has been to prepare students for college, the high school has had a difficult task to live down that limited conception. Perhaps college entrance requirements have had the greatest single influence on the high-school curriculum of all the factors influencing it. It is only in the last few decades that studies have shown that the colleges need not be so specific in their prescriptions in order to assure that entering students will be prepared to pursue college courses.[2]

Pressure Groups.—Pressure groups may be defined as small minorities which bring pressure to bear upon the school to have certain subjects, topics, or points of view introduced in the curriculum. The proposals are usually made by representatives of organizations who seek a hearing before school officials, or those engaged in curriculum construction. Such proposals may or may not be social aims of society as a whole, or may or may not be capable of being taught in schools. No curricular activities should be introduced *because* of pressure, but all should be selected on the valid bases proposed for building curriculums.

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[1] Harold Benjamin, "The Saber-tooth Curriculum," McGraw-Hill Book Company, Inc., New York, 1939, 120 pp.

[2] See Chap. VI.

VALID BASES FOR SELECTING CURRICULAR CONTENT

There are many valid approaches to the selection of curricular materials. They are not all mutually exclusive, and one cannot be employed as a single basis without involving others. All should be considered, for otherwise the curriculum will not be balanced or comprehensive or meet the other characteristics of a desirable curriculum. The bases furnish guiding principles for selecting and organizing materials. A few criteria on which curriculums are based are:

Philosophy of Education.—Every person involved in curriculum construction should formulate a basic philosophy of education which will answer the questions: What is the purpose of the school? What are its general aims? What are its specific aims? What are its functions? After these questions are answered, subject matter and activities can be selected which will produce the established outcomes. A philosophy of education does not alone tell one what to teach. Other bases for actually selecting material must be employed.

Social Efficiency and Stability.—The secondary school should teach those things which will make individuals more socially efficient. This includes training in social, business, and economic relationships, vocational efficiency, and ethical character. The term is too vague and general, however, to be of any great value of and by itself as a basis for selecting materials to be included in the curriculum.

Pass on the Cultural Heritage.—The cultural heritage might be thought of as the accumulated experiences of the race, or the best that the past has produced. This would involve a survey of the major fields of learning, the historical development of the nation, and an understanding of. and an appreciation of art. music, and literature.

Fundamental Needs.—From outward appearances, the principle of fundamental needs, both present and future, appears to be the best basis for determining what to teach in secondary schools, but like other bases, it cannot be used alone. If educators were able to determine just what the present and future needs of all individuals were, it would be a simple matter to place these in the curriculum, but these cannot be fully determined. There are some things all individuals or the majority will need at some time or another, and these should be given a first choice in making a selection. Seven needs have been identified as fundamental: transportation, communication, shelter, food, cooperation, passing on our heritage, and aesthetic, mental, and spiritual life.

Social Utility.—Recently there has been a great tendency to make subject matter as practical, useful, and functional as possible. The application of this method of selection is difficult since it is almost impossible to secure agreement on a definition of usefulness. It also involves the implicit assumption that what is being used or being done is desirable. The comprehensive high school in the United States does not separate cultural from practical or vocational subjects, but follows the idea that if the harmonious development of personality is to be achieved no phase of one's life can be neglected.

Individual and Social Efficiency.—Whether one selects materials designed primarily for the individual or for society, the majority of the subject matter will be the same, but if society is considered paramount, additional topics will be considered which, perhaps, would not have been taught if individual development were considered primary. Most of the curricular material required because of legislative action is selected because of its value to society rather than the individual. For example, rugged individualism caused the exploitation and waste of natural resources which had to be checked by legislative regulations, and in several states laws have been passed making the teaching of conservation of natural resources mandatory. Many of the curricular activities selected in this manner for the welfare of society are equally valuable for the individual such as the teaching of the effects of narcotics and tobacco. State requirements are shown in Table 49.

Other examples of state legislation concerning the content of the public-school curriculum and activities in which all should engage are:

In Massachusetts and Pennsylvania, pupils are required to salute the flag and pledge allegiance thereto each day school is in session.

Recent laws passed in Illinois, Massachusetts, and New York require that the American flag should be displayed in schools.

Wisconsin requires that at least 15 minutes a day shall be devoted to instruction in the vitamin content, food, and health values of dairy products for human diet.[1]

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[1] A Review of Educational Legislation, 1935–36, Biennial Survey of Education, 1934–36, Chap. VIII, *U.S. Office of Education Bulletin* 2. 1937, pp. 31–33.

Pupil Interests.—Several recent attempts to reorganize the curriculum have been based upon pupil interests as the criteria for selecting activities. Modern philosophy of education postulates that, other things being equal, those activities in which pupils are the most interested are to be preferred. There are, of course, some things in which all youth are interested, but due to individual differences very few are equally interested in any common courses of study; and, conversely, there are few things in which some pupils are not interested. High-school youth can be interested in most of the curricular material selected on other bases, and if the school fulfills its function of exploration many new interests will be created. It would not only be unwise, but also impossible to include in the curriculum everything in which youth are interested. Furthermore youth are not always likely to be interested in those things considered desirable for them.

TABLE 49

CHARACTER AND EXTENT OF LEGISLATIVE CONTROL OF PUBLIC-SCHOOL CURRICULUMS, 1930*

Subject	Number of States Requiring
Nature of alcoholic drinks	48
Physiology and hygiene	39
History (United States)	38
Physical training	29
Citizenship	26
Morals	21
Humane treatment of animals	20
Health	17
Agriculture	14
Bible	13
Safety	4
Algebra	3
Spanish	1

* Selected from data presented in Legal and Regulatory Provisions Affecting Secondary Education, National Survey of Secondary Education, Monograph 9, *U.S. Office of Education Bulletin* 17, 1932, p. 77.

This does not imply that curricular activities are to be selected wholly by adults and forced upon youth. Some, of course, will have to be selected in this manner; but in a final analysis, individual teachers engaged in guiding the learning activities of a group of pupils select the majority of the subject matter and do so with the cooperation of the pupils. Years ago Count Leo Tolstoi remarked, "Pupils' questions are far more important than chemical equations and mathematical formulae." If teachers will give pupils an opportunity to reveal their problems and interests by asking questions, and will follow "leads" given by pupils, pupil interests can be considered, and they will have a part in building their own curriculums.

Vocational Efficiency.—Subjects selected for the high-school curriculum to produce greater vocational efficiency should be selected on the following principles: (1) they should have both social and prevocational value, (2) they should be selected on the basis of a survey of vocational opportunities in the local community, and (3) they should be congruous with the pupils' aptitudes and interests.

Regardless of what vocational courses are offered in secondary schools, many pupils who pursue them will never enter that vocation because of a lack of opportunity, a changed environment, or because of a discovery of a more interesting field of work. For this reason, vocational courses should be so selected that the specific content will have personal and social values as well as vocational, so that the activities will be valuable even though they do not become a part of one's vocational experiences. The usual vocational courses, home economics, agriculture, general shop, and business education are in keeping with this principle.

Vocational subjects should be representative of the vocational opportunities of the local community. Even though the courses have social value, it would be unwise to train youth in a curriculum such as business education when there are no opportunities to secure work as typists, stenographers, or secretaries.

As a general rule, the level of student abilities in different comprehensive high schools is about equal; but, since there may be marked differences in some cases, the aptitudes and interests of the local student body should be determined before selecting vocational subjects.

Major Activities of Life.—An examination of the activities of life has been employed for years as a basis for determining the aims of education. They may also be employed in selecting activities for achieving these aims. On various occasions, each individual is a consumer, a producer, home member, and at all times is a citizen. He will communicate, move from place to place, engage in social and recreational activities.

Another way of viewing the activities of man is to classify them into the "lives" one lives. These may be divided into eight lives:

home, social and fellowship, political, mental, aesthetic, spiritual, recreational, and vocational. These are not mutually exclusive since one may be engaged in two or more at the same time. If activities are selected on the basis of aiding pupils to live better these "eight lives," they will cover the major activities of life.

Techniques for Selecting Curricular Materials.—After the bases for selecting materials have been determined, the next phase is to choose the techniques for locating and actually selecting activities.

Wesley[1] lists 15 techniques which may be employed in selecting curricular materials, which serve as plans, criteria, or standards for selection. Of these 15, it is probable that many, rather than a single one, will be employed.

1. Reports of national committees.
2. Courses of study.
3. Textbooks.
4. Trial and error.
5. Teachers' opinions.
6. Opinions of selected groups.
7. Frequency of mention or space allotment.
8. Analysis of social activities.
9. Social processes.
10. Natural activities and preferences of children.
11. Social, civic, and economic deficiencies.
12. Current problems or issues.
13. Generalizations.
14. Qualities of good citizens.
15. Word lists.

In a final analysis, the opinions of those building the curriculum will be a chief factor in the inclusion or rejection of activities. The 15 techniques will act as reminders, offer suggestions, call attention to factors which might be overlooked, and add emphasis to certain activities because of the frequency of mention by other curriculum makers.

ORGANIZATION OF SUBJECT MATTER

After a complete list of activities has been selected, it is necessary that they be organized before they can be presented. There are many ways of organizing other than by the conventional method, and many of the newer methods are more in keeping with modern psychological principles of learning than the conventional method.

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[1] Edgar Bruce Wesley, "Teaching the Social Studies," p. 189, D. C. Heath and Company, New York, 1937.

Conventional Method of Organizing and Presenting Subject Matter.—The most common method of organizing subject matter is on the subject basis, *i.e.*, an organization according to the major logical divisions such as mathematics, science, social studies, art, and languages. This method is excellent for the purpose of organizing materials and has great significance for mature students; but it is doubtful if it has such great significance for high-school pupils. Therefore, the general principle should be followed: organize logically, but present psychologically.

The greatest argument against the logical organization of subject matter is that all materials become isolated units seemingly unrelated to each other. Learning is organizing, and the average and below-average pupils do not have the ability to organize without help. Associations and relationships are learned better and more quickly if two related events, or cause and effect relationships, are presented simultaneously or in close succession. When subject matter is logically arranged and presented, pupils are likely to leave school with an accumulation or collection of isolated facts and skills with no ability to organize them. It is comparable to teaching the parts of a clock and never teaching how they are to be assembled in order for the clock to function. It must be admitted that much of this criticism should be directed to the teacher rather than the material.

The Unit Method.—Logical organization also retards the transfer of training. Materials taught in school are intended to be useful and to function out of school. If they do not, the school has not been wholly successful. Transfer proceeds more rapidly if related phases of a topic or unit are presented together. Transcending the vertical watertight subject-matter compartments in organizing materials for presentation is called the "horizontal" method or the "unit" method.

The unit method involves not only the organization of materials, but also the method of presenting it to the pupils, and evaluating the degree to which the outcomes were achieved. Although any accepted techniques of teaching may be employed, many progressive teachers follow some form of laboratory techniques. The first phase involves an overview or orientation of the entire unit; the second, a presentation of the unit; the third, an organization or summary recitation, and the last, a culminating activity designed to unite all the phases into a unified whole.

Units should be organized around some nucleus which becomes the point of view, central theme, or center of interest. After the central theme is determined, activities are selected which advance or make a contribution to it, regardless of the conventional division of subject matter to which it belongs. Other things being equal, those units in which the pupils are most interested, which are more likely to function in their lives, and which include the greatest number of subject-matter fields are to be preferred. Such units as conservation of natural resources, getting a pure food supply, and photography are examples. In a unit on photography the subjects of physics, chemistry, mathematics, and art are all involved in order for one to have a complete understanding of the proper operation of a camera.

Before teaching a unit, the teacher should state the ultimate objectives and the specific objectives or outcomes to be achieved in terms of factual knowledge, habits and skills, attitudes and appreciations. Activities are then selected for achieving them, and a method of evaluation is determined.

Unit organization is often employed for the entire curriculum in the seventh grade, being replaced gradually by the conventional method of organization as one proceeds to the senior year. Another plan is to organize the core-curriculum content about units, and the electives by subjects.

Immediate Needs Considered.—Subjects should be so organized that they meet the immediate needs of pupils rather than the chief consideration being for delayed or deferred values. To do this, the selection and presentation of materials should be such that every youth who attends the secondary school can not only profit by the experience but can also earn passing marks and be promoted. This means that the curriculum should be child centered, that is, selected to fit the pupil, rather than attempting to make the pupil fit a predetermined course.

Each Course Complete in Itself.—Because of the great amount of elimination from high school (on an average of each 100 who start, 55 finish), every course should be complete in itself; that is, none should be so organized that two years are required before value is accrued. If courses are sequentially related, each course will bring experiences basic to subsequent ones. For example, there is no good reason for not arranging first-year courses in languages so that pupils will profit by them though a second year is not taken. Many never take a second course, either because they leave school or reveal no interest or aptitude in foreign languages.

ORGANIZATION OF THE CONTENT OF THE CORE CURRICULUM

When several bases discussed in a previous section for selecting curricular material are used (basic needs, social functions, and centers of interest), all of them result in the selection of practically the same units. This indicates that regardless of the basis or method of selection there is considerable agreement as to what should be included in the curriculum, especially that portion which all pupils should experience, or the core curriculum. The core curriculum is defined as those activities which are considered so vital to the development and training of an individual, for his own benefit and for the benefit of society, that all pupils should be required to experience them. It is contrasted with the electives, which are not required, and frequently referred to as the special interest subjects.

The most widely employed method of organizing the content of the core curriculum is the traditional method, that is, organization by subjects. Within these subjects, those activities which are related may be organized into units without transcending subject-matter divisions. This method does not preclude integrating the curriculum, for, as shown in the previous chapter, it may be achieved through methods called "participation," "cooperation," or "coordination," which do not require a regrouping of subject matter.

The most progressive method of organizing core-curricular materials for purposes of instruction is about units in which subject-matter divisions are not respected, or by unification or fusion. The entire core-curricular content may be unified or one or two subjects only may be combined.

Regardless of the methods employed in organizing subject matter for presentation or for instructional purposes, a logical method should be employed for grouping activities in building the curriculum.

Subject-matter Organization for Planning vs. Organization for Instruction.—Too frequently a distinction is not made between the method of organizing materials while planning the curriculum, and organization for presenting the materials to pupils. Subject-matter divisions have no significance for immature pupils but have great value for mature students. The logical subject-matter divisions give order and system to an otherwise chaotic mass of facts, principles, rules, and laws. Without them there would be overlapping and omissions which could hardly be avoided. *A logical method should be used in selecting curricular content but a unit or pedagogical method should be used in presenting the material.* All of the experiences which teachers and others engaged in curriculum building believe should be included in the core curriculum, should be logically and systematically catalogued by subjects, or about some other logical scheme as centers of interest, basic needs, social and economic institutions. From this master list, certain phases should be selected, organized pedagogically, and presented to pupils.

In a previous chapter, a core curriculum was suggested for a six-year and a four-year high school containing those activities all pupils should experience to fit them for participation in present-day society. The proposals were based on present trends, opinions of curricular experts, aims of society selected by the school, basic needs, and interests of pupils.

In keeping with the principle that the planning should be logical, the core-curriculum content was presented first in terms of subject-matter divisions including a few selected activities which all pupils should experience. These activities may be organized by any of the progressive methods previously described.

ADMINISTRATION OF THE CURRICULUM

After the subject matter and activities have been selected and organized into teaching units which will determine the experiences pupils will have under the direction of the school, the next phases to be considered are those involving the sequential arrangement of the units, the selection of core materials, the grade placement, and scheduling of all activities.

The Core Curriculum.—In order to meet the integrating function of secondary education, some units, activities, and experiences are selected which all pupils should experience. These, when grouped, are known as the core curriculum. The basis for selecting these are the cardinal principles and functions of secondary education broken down into unit experiences all pupils should have. Guiding principles for selecting core curricular content are:

I. On the basis of aims:
   1. Health, physical education, and safety
   2. Command of fundamental principles of reading, writing, speaking, and arithmetic.

3. Citizenship training involving civic duties and responsibilities, respect for law and order in an organized society, and an understanding and appreciation of democratic institutions.
4. Worthy home membership involving family relationships and responsibilities; consumption of utilities, food, and clothing; saving; investing; spending the family income; and making home repairs.
5. Ethical character involving a sense of moral responsibility, development of ethical standards, ability to determine right from wrong, and the ability to regulate conduct.

II. On the basis of functions:
1. Integration: Materials should be selected on the basis of unifying and integrating or giving all a certain basic common culture.
2. Exploration: Pupils should have contact with the various fields of learning. Tryout courses and introductory courses giving an overview of entire fields should be provided.
3. Propaedeutic. There should be sequential arrangement of units in order that continuity will be maintained and basic skills for subsequent courses will be properly placed.

Electives.—Just as the core curriculum meets the integrating function of secondary education, the elective courses meet the individualizing or differentiating function. After a common background of general culture has been established, pupils may pursue courses congruous with their interests and aptitudes. In order for the school to adequately achieve this function it must provide for a great variety of experiences.

Grade Placement.—Several principles and factors must be considered in the grade placement of units of subject matter. These involve continuity and sequence of the subject, maturity of the pupils, probability of elimination from school, and a consideration of whether the pupil will enter an institution of higher learning or enter industry immediately following graduation.

There is no sound basis for devoting some time to the study of a unit during a certain grade, and then dropping it permanently for the pursuit of another phase of subject matter. Knowledge is not acquired in this manner. In order to produce integration or transformation in learning, much time is necessary for the pupil to properly assimilate and organize his experiences. Activities which have been experienced will soon be forgotten if they are not used, and relationships between one topic and another will not be seen if they are treated as isolated and independent entities. It might be better to subdivide units and study one phase one year, and another the next. Another excellent method of organizing involves the consideration of a topic in different units, each unit considering it from another point of view. A good example of this way may be found in a unit entitled "measurement," which may be considered in every year of the entire secondary-school period. Likewise, it may be involved in many units, such as the measurement of land, volumes, light, sound, electricity, or the measurement of qualities.

Materials which are sequentially related must be presented in such an order that skills basic to a further understanding of the subject are presented first. Likewise, some materials furnish background for a better understanding of subsequent materials. Examples of the first are found in mathematics. A knowledge of multiplication and subtraction must precede that of long division. For the second, a study of European history furnishes a background for a better understanding of American history.

Maturity brings new experiences and physiological and psychological development. It is a well-known principle that *many things taught in the school would have been learned incidentally anyhow.* The school merely hastens the acquisition of certain skills; but from this statement it should not be implied that *all* experiences furnished by the school would have been had later. The school should recognize the informal or incidental educational agencies by placing certain subjects later in the curriculum in order that pupils will have had sufficient experiences to furnish a background for a more complete understanding. Units involving a study of comparative governments and democratic institutions are examples of these.

Some principles and concepts are more difficult to understand than others and require a greater degree of maturity. Such material is found in every field. In English, some literature, as Shakespeare, should be placed in a higher grade than other literature, as Longfellow's poems; solid geometry is more difficult and has a dependence upon plane geometry; the relationships between volts, amperes, watts, and ohms require a higher degree of maturity for understanding than does the relationship between the expansion of metals and temperatures. A large amount of understanding depends upon vocabulary and language development which comes through experience. As one percept is gained, others may be added by contrast or comparison with it. Without such previously acquired percepts, a teacher is at a loss to explain such things as the form of government of a foreign country, if the pupil has not acquired some previous knowledge.

As contrasted with the placing of materials late in the curriculum, certain material should be taught as early as possible in order to meet the needs of those who will not continue until graduation. This does not produce a conflict, because the integrating units are of greatest importance for this group, and the integrating units should also be placed early in the curriculum for all groups. In the junior high school most of the subjects are constants or are in the core curriculum. As one proceeds to the twelfth grade, fewer subjects are required and more free electives permitted, for the integrating function should be stressed first, and the individualizing function later.

Those who will enter institutions of higher learning after graduation and those who will enter industry should be given different considerations. Those subjects which are required for college entrance but do not have value for all pupils, like algebra, should be placed in the eleventh or twelfth grades as electives. There are two reasons for this: Those remaining for the eleventh and twelfth grades are the only ones who will attend college, and, if the subjects are placed in these years, the skills are retained to a greater degree for use in college than if they were taught in an earlier year. Furthermore, the arrangement leaves the curriculum free to offer other subjects for those who will not graduate. For those who enter industry immediately after graduation, certain courses of a vocational nature should be offered in the last two years in order that graduates will receive some prevocational background before entering industry.

ENRICHING THE CURRICULUM WITH ACTIVITIES

The curriculum, as previously defined, includes all of the experiences under the direction of the school. Although the regularly scheduled courses of study constitute the major portion of the experiences, they do not constitute all of them.

If the curriculum includes all the experiences a pupil has in the school, there can be no such thing as extracurricular activities, for, if the school provides for them, they are a part of the school curriculum. The term "extracurricular activities" has been so commonly used, however, that it is employed to mean activities growing out of or related to regular course work.

An activities program is essential to give those experiences not provided for in regular course work. The activities should supplement and be an outgrowth of the regular courses of study. Their purpose is to give an opportunity for pupils to pursue further their individual interests, and have an opportunity to participate actively in various forms of group and individual work.

The School Library.—Teaching is the guiding, stimulating, and directing of pupil activities toward certain goals. It consists of creating an environment in which pupils will be stimulated in making a conscious effort to learn. The school library is part of this environment and, since the school selects the books and provides an opportunity for pupils to read them, it becomes a part of the curriculum. Space is entirely too brief in this volume to present a detailed body of principles for selecting, classifying, housing, and using the library. A few principles only will be presented:

1. The books, magazines, and pamphlets should be selected on the same basis as any school experiences or activities are selected.
2. They should be housed in one centrally located room, which will accommodate from 15 to 30 per cent, as a minimum, of the student body.
3. Books should be stacked on open shelves in order that pupils may browse among them.
4. All pupils should have a daily opportunity of one to two hours in which to make use of the library.
5. A well-trained librarian should be employed who is able to assist pupils in locating materials.

Materials and Equipment.—Pupils cannot react to an entirely new experience. If they have not had certain experiences necessary for an understanding of subsequent ones, the school should provide for them. Likewise, in order to aid in gaining new percepts, materials are necessary for demonstrations or individual laboratory work. To bring the materials into the classroom in actual size and form is better than to employ models, pictures, or diagrams; but often the latter is necessary. If neither can be done, a trip should be made. By so doing the teacher is including in the school environment or curriculum certain elements outside the classroom.

The Textbook.—In a final analysis, those who write and those who select the textbook for a course have a major part in determining the content of the curriculum. The high school has increased more rapidly than teachers adequately prepared in various fields have been trained. This factor, together with short tenure, has made the textbook the most important source of materials in the high school. It is not only used as a guide and a reference, but often is the sole source of information in a course. There are relatively few teachers who can, with the aid of a state or local course of study, build their own courses of study to meet local conditions.

There is no inherent harm in the textbook as a guide and source book. Most of them are well organized, are based on the most standard practices in selecting materials, and facilitate the teaching process. It is far better that an inexperienced teacher, with little knowledge of her subject, follow a text than attempt to organize a course of study for herself. The evils arise from confining the course entirely to the textbook and in making a poor selection of a text. However, the majority of textbooks in any field are excellent. Differences between them are usually compensating. None is written with a purely logical point of view, nor is there any written specifically for rural or for urban sections. For these reasons, it matters little whether the text is selected by a state commission or by local groups, save for the psychological effect of permitting local adoption. If texts written with a local point of view are desired, they will have to be published and distributed locally, for no textbook company can afford to publish a volume which will not have national use.

Following a text does not mean that courses cannot be enriched. The text may be used as a guide, and other available materials used to adapt the course to the local community. Since textbooks must be national in scope, unless locally published, this enriching becomes necessary. Common textbooks in all parts of the United States is one factor in achieving the integrating function of secondary education. However, the course of study which would meet the needs of youth residing in the heart of New York might not be the best type for those residing in rural sections of New York, and would certainly be out of place in a small, rural, Oklahoma or New Mexico high school in which the majority of the youth are Indians and who will, in all probability, spend the remainder of their lives on farms or in small rural villages. Likewise, all of the details of a curriculum designed for youth in Minnesota, where the winters are long and severe, where houses must be well insulated, and fuel bills are high, might not meet the needs of youth in Florida or Louisiana where the opposite is true.

Universal textbooks bring these groups together through the medium of a common literature, history, art, and music, but in science and social studies, deviations must be made in applications, while general principles will be the same everywhere.

State and Local Courses of Study.—All states and many cities have developed courses of study for both the elementary and the secondary schools. These are available to all teachers, being distributed through the state departments of education, or the school system. For secondary schools, state courses are constructed for each of the subjects taught in high schools by committees or groups of teachers working with the state departments. The courses contain the general and specific aims of each course, lists of materials, and methods of instruction. These are usually not intended to be followed slavishly, but are to be used as guides.

THE CURRICULUM OF RURAL HIGH SCHOOLS

There is no such thing as "rural education." It is merely education, the same as in any part of the country, although there are some differences in the emphasis placed on various objectives in rural areas. There are several misconceptions of the objectives of rural education, the chief ones being that its purpose is to keep rural children on the farm, to help them escape privations of life, and to provide vocational training.[1]

There is no more reason to encourage high-school pupils of rural areas to remain on the farm than to encourage all urban youth to follow the occupations of their parents. Aptitudes, interests, and personalities should be explored and those showing an aptitude and interest in farming should be encouraged and trained to follow that work, and the vocation should be ennobled. At the same time, those showing an aptitude and interest in other vocations should be encouraged to follow them, even if it means leaving rural areas. It is not to be assumed that farming is an undue hardship and that through education children can escape from it. Furthermore, the same objectives and emphasis on vocational training should be followed in rural as well as urban high schools. The only exception is that agriculture should be offered in rural schools, for a greater percentage will follow that vocation than in urban centers.

There are excellent opportunities in rural schools to correlate the work of the school with that of the farm. Most of the pupils have had some experience on the farm, and perhaps have duties to perform before and after school and during vacations. By cooperating with the county agriculture agents, the county demonstration agents, county nurses and welfare agents, vocational training can be given and aptitudes explored. Rural life can be ennobled and enriched through the two well-known clubs, the 4-H Clubs, and the Future Farmers of America.

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[1] Julian E. Butterworth, "Principles of Rural School Administration," Chap. II, The Macmillan Company, New York, 1927.

The Curriculum.—Studies made by the Department of Superintendence of the National Education Association,[1] the National Society for the Study of Education,[2] and the National Survey of Secondary Education[3] agree in general that the main body of the curriculum of smaller secondary schools has remained relatively constant over the decade from 1920 to 1930. There were slight tendencies for Latin and other foreign languages to decrease in importance, and for algebra and ancient history to lose some ground as common requirements. The social studies, general science, and subjects of a practical nature show some signs of increasing. There was a tendency also for the curricular offerings to be more closely related to modern life. Music increased more than art.

The types of curriculum found most frequently in these studies were the academic and general types. The subjects other than academic which occurred most frequently were agriculture, home economics, and commercial courses.

In general, about half the pupils' work is required in smaller high schools, and, as one would expect, the smaller the school, the more the courses are prescribed. The pattern of required work follows quite closely the pattern prescribed for college entrance, that is, courses in the fields of English, mathematics, science, history, and social studies, the major difference being in the field of foreign languages which were required by a relatively small percentage of schools.[4]

When schools are so small that only one curriculum can be offered, it should be of a general type rather than along specific vocational lines. The core curriculum suggested in Chaps. XIII and XIV is equally valuable and as easily adapted to small as large schools. The selection of electives should be based upon local conditions and the vocational opportunities of the community.

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[1] "The Development of the High-school Curriculum," pp. 97–98, Sixth Yearbook of the Department of Superintendence, National Education Association, Washington, D.C., 1928.

[2] "The Status of Rural Education," p. 141, Thirtieth Yearbook, of the National Society for the Study of Education, Part I, Public School Publishing Company, Bloomington, Ill.

[3] The Smaller Secondary Schools, National Survey of Secondary Education, Monograph 6, *U.S. Office of Education Bulletin* 17, 1932, pp. 109–123.

[4] *Ibid.*, p. 119. See also Chap. VI on college entrance requirements.

Special Plans for Increasing Educational Offerings.—Owing to the limited facilities, the small enrollments, and the few teachers in small rural high schools, special devices must be employed for enlarging and enriching the curricular offerings. These plans permit the pupils to come in contact with more experiences than they normally would if they were not employed. There are several plans which are commonly employed for enriching the curriculum:

1. *Alternation of Subjects.*—This is the most common of all plans employed in smaller high schools for expanding the curriculum. The subjects that are usually alternated are those which are organically and vocationally alike. Those which lend themselves readily to alternation are physics and chemistry, biology and general science, algebra and geometry, the third and fourth year of a language, the second and third years of agriculture and home economics.[1] If possible, those activities which all pupils should experience should not be alternated because of the elimination from school. By alternating related electives it gives those who remain in school an opportunity to pursue them and if both cannot be taken, the probability is that one will be as valuable as the other. An inherent evil in alternating subjects is the effect it has on transfer pupils. Often one will transfer to another high school at a time when a desired course is not offered. The only solution is that of cooperation of all schools within the state in planning the years in which certain subjects will be alternated in order to secure uniformity in practice.

2. *Correspondence Courses.*—Many state departments of education are recognizing work done by correspondence offered through the extension departments of universities and colleges. Courses in nearly all subjects are offered and through them individual needs may be met which could not be accomplished otherwise.[2]

3. *Out-of-school Work.*—The National Survey of Secondary Education[3] reported that with the exception of work in agriculture and home economics, which is usually done under the supervision of teachers, there are a variety of practices for granting school

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[1] R. Emerson Langfitt, Frank W. Cyr, and N. William Newsom, "The Small High School at Work," pp. 213–215, American Book Company, New York, 1936.

[2] *Ibid.*, p. 214.

[3] The Smaller Secondary Schools, National Survey of Secondary Education, Monograph 6, *U.S. Office of Education Bulletin* 17, 1932, p. 120.

credit for work done out of school. Music was mentioned especially as one of these types of activities. To receive credit, the teacher must be certified and an accurate account of the amount of work done must be reported.

4. *Itinerant Teachers.*—In many small schools, if there is a sufficient demand, a teacher may be employed on a part-time basis to give instruction, most frequently in such subjects as agriculture, practical arts, and home making. This plan is also practiced in giving instruction in music.[1]

5. *Fused or Composite Courses.*—In a small high school enrolling fewer than 60 pupils with three to four teachers, there is an excellent opportunity to integrate the curriculum. Two fields can be correlated better if one teacher teaches both than if they are taught by two individuals. Any one of the several methods suggested in Chap. XII for correlating the curriculum may be employed in the small high school, viz., participation, cooperation, coordination, fusing, and unifying the content of the curriculum.[2] Cooperation is accomplished far better in a small than in a large high school, for there are fewer teachers involved.

Composite or fused courses are especially recommended for the small school as a means of correlating and enriching the curriculum and at the same time lightening the number of teaching periods a day for each teacher. It is to be preferred to alternating subjects. The first step in this type of correlation is that of combining courses in the same subject, such as a general course in science for the ninth and tenth grades stressing the biological and geological phases, followed by a general course combining physics and chemistry in the eleventh and twelfth grades. In the same manner general courses may be organized in mathematics, social studies, and English. The unit method of organizing the content is to be preferred.

The next step which is still more progressive is that of correlating two or more subjects by constructing units which transcend subject-matter divisions. In initiating such a revision it is better to combine only two fields at a time and later add other fields. Excellent combinations are science and mathematics; social studies and either science or English. Home, fine, and industrial arts may later be combined with the core units.

This method of correlating the curriculum is generally employed only in the required content or core curriculum while the electives are organized as single subjects; but by fusing the electives pupils may be provided with an opportunity of experiencing a greater variety of activities than by other methods. These methods are to be preferred to the usual plan in small schools in which there are eight 45-minute periods a day, with six to eight subjects assigned to each teacher. By correlating the curriculum, longer periods with fewer and more generalized subjects may be substituted.

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[1] *Ibid.*, pp. 120–121.

[2] See Chap. XIII for a description of these plans.

General Principles of Organizing the Curriculums of the Smaller High Schools.—Until larger administrative units are organized, consolidations effected, and costs equalized, the small high school will have to rely upon its own resources in bringing secondary education to rural youth. Rather than consider small high schools as temporary, every effort should be made to improve them while they do exist. A number of principles for small rural high schools are proposed:

1. Only teachers who have the interests of rural youth should be employed in small rural high schools. Small rural high schools are not the best training grounds for teachers of urban schools. Such teachers will have, or should acquire, an understanding of and appreciation of rural life and character.
2. The small high school should not try to become too ambitious. The limited facilities should be recognized and a program placing too much work on teachers should be avoided.
3. It is almost necessary to include college entrance subjects in the curriculum for the benefit of those who will go to college. They should be placed in the junior and senior years as electives.
4. The curriculum may be enriched and individual needs met by alternating subjects, giving credit for correspondence work and work outside of school, by employing part-time teachers for special classes, and by integrating the curriculum about units which transcend subject-matter divisions.
5. Small high schools should not offer more than one foreign language.
6. If vocational subjects are offered they should be in the fields of agriculture, home arts, and industrial arts.

GENERAL PRINCIPLES OF CURRICULUM CONSTRUCTION

There are a number of general principles for constructing and administering the curriculum of secondary schools. The more important of these are:

The Curriculum Should Be Flexible.—Flexibility is necessary if pupils are to be served, especially in the junior high school. If a pupil enters one curriculum and after several weeks finds that he does not have any special interest or aptitude in that field and that another is more appealing, he should be able to transfer without difficulty and without loss of time, for all curriculums should contain courses of study furthering the general aims of secondary education, and all vocational courses should have social as well as vocational value. Likewise, transfer from one course of study to another should be made easy, and without loss, even though a pupil had spent several weeks in one course, and then dropped it to start another.

Flexibility should be practiced in the selection of materials, in organizing them, and in grade placement. There are a few curriculums so well planned that changes should not be made after school has started. When it is considered to be for the best interests of the pupils, changes should be made at once. For example, a unit may be planned in advance providing for certain activities, and a certain number of class periods. During the process of teaching the unit, if it is found that certain materials are not available, or pupil interests are along other lines, the teacher should feel free to change her plans.

The Secondary-school Curriculum Should Be Articulated with That of the Elementary School.—To avoid a gap between the elementary and secondary school, to prevent overlaps and omissions, and to provide a continuous, integrated, and articulated program through the entire school system, junior-high-school subject matter should be selected with a consideration of the work of the upper grades of the elementary school. For those schools organized on the 8-4 plan, the eighth and ninth grades should be articulated. One of the best methods of doing this is to build the curriculum only after a study has been made of the specific disabilities and abilities, special talents, interests, and needs of those entering high school. These may be determined partly through a study of the curriculums of the elementary school from which the pupils came, an examination of any records from the school, and the administering of diagnostic and achievement tests. These factors will be determined only partly at the time of entrance. A continuous study is necessary to analyze the pupils completely.

If weaknesses in various pupils are observed, the secondary school should proceed to remedy them, even though there might be a feeling that it was the work of the previous school and not that of the secondary school. A few years ago the writer discovered a college senior who did not know the multiplication table. She found a product by successive additions, keeping tally of the number of times added on her fingers. The secondary school and university had not discovered this inability until she was almost ready to graduate and find a position teaching in a junior high school. It is needless to say that, after the discovery, the first assignment given her was to learn the multiplication table. One might consider this a rather elementary assignment for a college senior, but this was a specific need, and illustrates the principle of making a final selection of subject matter after becoming acquainted with the pupils. This does not preclude a previously selected and planned program of activities; it supplements such a program.

Small Schools Should Not Try to Offer Too Many Courses.—Small secondary schools should not try to offer too many courses. It is far better to group all offerings about the main fields of science, social studies, English, arts and crafts, and physical education, than to break these into many specific courses and try to offer a large number. Too many offerings increases the teaching loads beyond the point of efficiency. Suggestions were offered in a previous section on how to enrich the curriculum in the smaller high schools. The methods were: alternation of subjects, correspondence work, combining subjects, and the itinerant teacher plan.

The Curriculum Should Conform with State and Local Laws.—As shown in Table 49 there are some subjects or topics required to be taught in public schools by various states. Regardless of whether curriculum makers are in agreement with these prescriptions or not, they must be included in the curriculum.

The Curriculum Should Be Dynamic and Life Centered.—In the Sixteenth Yearbook of the American Association of School Administrators, are given six "principles for the construction of dynamic and life-centered curriculums." These principles are:

> I. Individuation—the development of the individual in harmony with his fundamental needs and best interests.
>
> This principle for the construction of a dynamic and self-centered curriculum for youths grows directly out of the fundamental idea that youth, first of all, must be considered for his own sake and not merely as an economic or social problem. This principle conceives the individual in his own rights and not as the pawn of a current or prospective social regime.
>
> The application of this principle should make provision:
>
> 1. For every youth a complete program of physical and health education.
> 2. For every youth effective training in the use of the fundamental knowledge and skills required by modern life.

3. For every youth the development of a unified personality involving self-understanding, self-respect, self-reliance, self-expression, harmonious attitudes, and integrity of character.
4. For every youth a maximum development in open-mindedness, in problem-solving, in the understanding of nature, in scientific thinking, in spiritual endeavor, and in the appreciation of human culture.
5. For every youth a system of individual guidance leading toward security and happiness in home, vocational, recreational, and other worthy forms of human endeavor.
6. For every youth attention to individual differences both as to variations in specific traits and abilities and the whole youth as a distinctive personality.
7. For all groups of youth methods and materials adapted to their age, mental, and interest levels.

II. Socialization—education of the individual in harmony with the needs and possibilities of his social environment.

To this end, the curriculum should make increasing provision for:

1. The development of those traits of character and ways of behaving which are of special significance in a democratic society, such as tolerance, suspended judgment, and capacity for sharing.
2. The cultivation of an intelligent understanding and solution of problems of a social nature, such as crime, war, failure to employ workers, and profiteering.
3. The development of a sense of responsibility toward home, vocation, associates, community, and society at large.
4. The development of a sympathetic understanding and appreciation of the worthy traditions, institutions, and achievements of mankind.
5. The cultivation of a willingness and an ability to cooperate effectively in democratic institutions.
6. The development of the ability to comprehend and to use the most effective and reliable methods in the solution of economic, social, and civic problems.
7. The discovery and application of more adequate methods for the solution of these problems.

III. Integration—whole rather than partial development.

Some of the ways which, under proper direction, help to bring about better integration follow:

1. Organization of a learning environment which includes a variety of real life problems.
2. Organization of teaching units around life-career themes or functional centers of interest.
3. Increase in the number and quality of lines of participation in the community life.
4. Fusion of subjects at appropriate grade levels for purposes of more ready and extensive application.

5. Guidance, both individual and group, concerned with the child's whole development and adjustment.
6. Flexibility of time allotment and teaching schedules.

IV. Specialization—purveying to society's demand for special services on the one hand, and to special interests and abilities of individuals on the other.

Some of the more important applications of the principle of specialization follow:

1. The singling out of certain basic or representative areas of human experience for instructional experience.
2. Diagnostic testing and remedial treatment for special emotional, mental, and physical defects.
3. Special inquiry and testing to discover special aptitudes and interests.
4. Variable assignments and optional choice of work to take care of special interests and aptitudes.
5. Sufficient early specialization to be of helpful *exploratory* value for vocational, recreational, and educational guidance.
6. Sufficient cultural and creational specialization to provide for permanent leisure-time interests.
7. Eventual occupational specialization to provide for economic security.

V. Dynamic Approach—factors which lead to purposeful learning and dynamic teaching.

1. Experiential approach. This involves an approach to the topic or phase of learning under study through the consideration of a life situation which is real to everyday experience and, so far as may be possible, to the pupil's immediate environment.
2. Purposeful learning. When guided by this principle, courses of study give emphasis to pupil activities which are purposeful first of all, from the point of view of the learner. Activities should be simplified, rendered attractive, and introduced in such a way that they became the *pupil's own purposeful activities.*

VI. Guidance of the individual is concerned with the youth's whole life career.

The school should try to connect youth happily and effectively with an active life in the world of affairs outside the school. Successfully to accomplish this end necessitates the setting up of a program of guidance which, for each pupil, is concerned specifically with his future educational, vocational, recreational, and social career.[1]

SUMMARY OF PRINCIPLES OF CURRICULUM CONSTRUCTION

By way of summarizing, the general principles of curricular construction which have been discussed, are brought together:

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[1] "Youth Education Today," pp. 63–71, Sixteenth Yearbook of the American Association of School Administrators, Washington, D.C., 1938.

I. Aims:
  1. The secondary-school curriculum comprises all the activities and experiences provided by the community through the school to prepare youth to participate in civic life, and to secure for every individual the maximum self-realization consonant with the welfare of the group.
  2. The secondary-school program of studies must not only guide and direct the activities of pupils within the school, but must be operative outside the school, and must be in harmony with other educational agencies.
  3. The total program of studies should be divided into curriculums, each with a definite aim, with goals that are socially desirable, and which meet the needs of all particular groups and types of individuals who attend the school.

II. Selection of curricular content:
  1. All curricular content should contribute to the aims and functions of education.
  2. No single basis, as yet, has been found which, as a sole criterion, may be used for selecting curricular content. Valid bases are:
     a. Immediate and future needs of youth.
     b. Inventory of interests of youth.
     c. Vocational and job analysis.
     d. Social and economic utility.
     e. Analysis of the activities of man.
  3. Until it is no longer necessary, courses required for college entrance should be offered.

III. Organization of curricular materials into courses of study:
  1. Curricular materials should be organized into units for purposes of instruction.
  2. Units may be grouped according to major divisions of subject matter or taught under their own titles.
  3. Units and general courses should be taught in the seventh grade with a gradual increase in subjects organized on the conventional basis as one proceeds to the twelfth grade.
  4. Materials should be organized so a pupil may leave school at any time, that is, all courses should have value other than preparation for one to follow.

IV. Grade placement:
  1. Materials should be placed according to the immediate needs of pupils.
  2. Exploratory courses should be placed in the junior high school.
  3. College preparatory subjects should be placed in the senior high school.

4. Maturity of the pupils and continuity should be considered in grade placement.
5. Subjects of greatest value to pupils should be placed early for the benefit of those who will not graduate.
6. Materials should be organized so there will be no gaps and a minimum of overlapping.

V. Core curriculum and electives:

1. The ratio of constants to variables should decrease from the seventh to twelfth grades.
2. No course having college-preparatory values only should be required.
3. The core curriculum should provide for the integrating function; the electives for the differentiating function.
4. Core-curricular materials should be so planned that every industrious normal pupil can profit by the course, and receive a passing mark.

VI. Vocational subjects:

1. The secondary school cannot meet all of its aims, nor fulfill its functions, if more than one-fourth of an individual's curriculum is composed of vocational subjects.
2. Vocational subjects should be of a general and basic nature and so selected, organized, and taught that social and personal, as well as vocational values will be accrued.
3. They should be placed in the eleventh and twelfth grades.

VII. General principles:

1. The curriculum should be flexible and transfer from curriculum to curriculum should be made easy in order to provide for exploration and individual differences.
2. The secondary school curriculum should be articulated with the work of the elementary school, and institutions of higher learning.
3. Small schools should not try to offer too many courses but should combine courses and limit their offerings.
4. All local and state laws should be conformed to in selecting materials and offering courses.
5. Curriculum revision should follow a careful study of the needs, interests, and abilities of the pupils, and a shifting in the aims of secondary education with a changing population.
6. Curriculum revision should be a continuous never-ending process involving and requiring the united and cooperative efforts of all persons interested in and engaged in educational work.
7. Each pupil should be required to earn 15 units of secondary education for graduation, exclusive of credits for physical education, activities, music, and art.

8. Institutions of higher learning should be urged to accept high-school graduation to satisfy entrance requirements, without imposing special subject-matter requirements or examinations.[1]
9. Pupils should not be required to follow restricted patterns of courses. This does not invalidate the core-curricular requirements. Certain substitutes may be offered in these, and a number of free electives offered in addition to the required courses.

An excellent formulation of principles underlying the curriculum of an American school was made by Lester Dix, principal of Lincoln School, Teachers College, Columbia University. These principles cover the design, spirit, practice, and emphasis in American education. The principles are:[2]

1. In design, American education must be:
    - *a. General.* There should be a unified plan of education appropriate to any individual.
    - *b. Comprehensive.* The general plan should be sufficiently broad in scope to include both a common education for citizenship and unlimited opportunity for leadership.
    - *c. Coherent.* The design should have sufficient unity to show where any area of personal interest, field of general inquiry, or area of subject-matter fitted.
2. In spirit, American education must be:
    - *a. Modern.* The general plan should fit one to life in the world today.
    - *b. Functional.* All activities should be related intimately to the activities of the population.
    - *c. Practical.* Democratic education should provide for every promising area of growth. It can no longer remain a vested academic interest.
    - *d. Cooperative.* It should be planned so as to condition individuals for interdependent collective life.
    - *e. Intellectually unifying.* It should provide for continuity from the simplest to the most elaborate learning.
    - *f. Socially integrative.* It should lead the learner to relate his personal interests and desires to like interests of others, and to the whole cultural pattern within which these interests must be served.

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[1] Philip W. L. Cox, "Curriculum Adjustment in the Secondary School," pp. 127–275, J. P. Lippincott Company, Philadelphia, 1925.

[2] Lester Dix, "A Charter for Progressive Education," pp. 42–50, Teachers College, Columbia University, New York, 1939.

3. In practice, American education must be:
   - *a*. *Personal.* The curricular plan should have an emphasis centering around the increasingly socialized individual, his interests, desires, needs, and capacities.
   - *b*. *Integrative.* It should provide for an integrated pattern of activity of the learner.
   - *c*. *Active.* It should be organized in terms of unified growth.
   - *d*. *Adventurous.* It should place a premium on self-initiative.
   - *e*. *Developmental.* It should value the promotion of growth above the attainment of any specific knowledge, capacity or standard.
4. In emphasis, American education must seek:
   - *a*. *Balance in capacities.* Experiences should be balanced with respect to skills, knowledges, attitudes, and purposes.
   - *b*. *Balance in experience.* A balance should be maintained between activities dealing with material things, natural forces, people, and ideas.
   - *c*. *Self-reliance.* Originality should be encouraged, as contrasted with conformity and regimentation.
   - *d*. *Creative capacity.* Unlimited opportunity should be provided for creative capacity and initiative.
   - *e*. *Personal enjoyment.* The learner should be encouraged to respect his body and enjoy a variety of physical activities and developments.
   - *f*. *Vernacular competence.* It should provide a rich and active experience with the native language.
   - *g*. *Aesthetic interest.* Activities should be provided which would encourage the emergence of aesthetic interests.

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CHAPTER XVI

EDUCATIONAL AND VOCATIONAL GUIDANCE

One of the most important functions of the secondary school is that of determining the interests, capacities, and the educational and vocational needs of the pupils and then directing them in a manner consistent with the findings. At the same time, pupils should be trained to be self-sufficient or independent, so they can guide themselves. Teachers have been doing this for years in their daily contacts with pupils, but only recently has there been a conscious effort to do what was formerly done incidentally. According to Kitson, vocational guidance as a recognized form of educational and social service dates only from 1908, and since 1910 it has been firmly established that the public school is the logical and strategic institution in which to give vocational guidance.[1] If schools are organized for guidance, and there is a planned guidance program, the incidental activities of individual teachers will be unified and concentrated on the same objectives and greater efficiency will result.

Definition and Scope of Guidance.—The aim of guidance when it first became an organized activity was merely that of finding the vocation for which each individual was best fitted. More recently the concept has changed. It has become broader in scope and no longer involves the idea that each person is best fitted for one vocation only. Two definitions are worthy of being quoted.

> Guidance in the secondary school refers to that aspect of the educational program which is concerned especially with helping the pupil to become adjusted to his present situation and to plan his future in line with his interests, abilities, and social needs.[2]

Traxler believes that the only concept of guidance that can have any real application to the practical problems of counseling is a functional one. He defines guidance under ideal conditions, as enabling

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[1] See Harry D. Kitson, in "Objectives and Problems of Vocational Guidance," pp. 259–261, ed. by Edwin A. Lee, McGraw-Hill Book Company, Inc., New York, 1938.

[2] Shirley A. Hamrin and Clifford E. Erickson, "Guidance in the Secondary School," pp. 1–2, D. Appleton-Century Company, Inc., New York, 1939.

> . . . each individual to understand his abilities and interests, to develop them as well as possible and to relate them to life goals, and finally to reach a state of complete and mature self-guidance as a desirable member of the social order.[1]

In its broadest sense, the guidance function is included in every activity of the school, and involves moral, social, health, personal, and emotional guidance as well as educational and vocational guidance. Since the former phases have been treated under various other topics as meeting adolescent needs, college-entrance requirements, and free activities, the present chapter will be confined to the major aspects of vocational guidance and the related educational phases.

Aims and Functions of a Guidance Program.—One of the first aims of a guidance program may be stated in terms of a functional definition. An excellent one is that accepted by the faculty of the Plainville, New Jersey, High School, one of the schools which participated in a demonstration project in educational guidance by Galen Jones,[2] principal of the Plainville High School. The definition is:

> Guidance consists of (*a*) leading a pupil to conceive objectives that are meaningful and worthy for him, socially desirable, and attainable in the light of his background, ability, and development, and of (*b*) helping him to achieve these objectives.

The large general purposes of this project were to be divided into the following general aims:[3]

> 1. Maintenance of cumulative records and the training of individuals to make their entries.
> 2. Systematic use of comparable tests: achievement tests annually in four or five subjects; reading and academic aptitude tests every other year, and other tests at the option of each school.
> 3. Development and observance of a system of continuous teacher education, in order that each one will understand and contribute to the cumulative record, understand the function of the tests employed, and study each pupil as an individual personality.

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[1] Arthur E. Traxler, editor, "Guidance in Public Secondary Schools," p. xi, Educational Records Bureau, New York, 1939.

[2] See Traxler, *op. cit.*, p. 21. This volume contains a complete report of this project in guidance.

[3] *Ibid.*, pp. 4–5.

4. Study of the relationship between curriculum requirements and individual needs, and readjustment of curriculums to make them conform better to the needs of groups and of individuals.
5. Improvement in procedures for marking pupils and reporting their progress to parents.

The aim of vocational guidance as given by the National Vocational Guidance Association in 1937 is as follows:[1] Vocational guidance is the process of assisting the individual to choose an occupation, prepare for it, enter upon and progress in it.

Kitson states a number of distinct functions of vocational guidance which are implicit in this definition:[2]

1. Assemble information about occupations.
2. Impart information about occupations.
3. Analyze individuals.
4. Counsel with individuals.
5. Place individuals in jobs.
6. Follow up workers who have been placed.

THE NEED FOR GUIDANCE

When the secondary school was a more selective institution than it is now, the need for guidance was not so great as it is at the present. Before 1900, and in many schools even to the present, the typical high-school curriculum was a single type. There were few electives, and in very small high schools often there were no electives. Pupils pursued the prescribed and only course, and if they could not profit by it they were eliminated. The majority were intending to pursue their schooling into institutions of higher learning, and the usual high-school curriculum was of the college-preparatory type. Gradually, high schools began adding other curriculums as the general, commercial, technical, and trade. This expansion attracted more pupils and added to the schools' problem of helping pupils select a curriculum best fitted to their interests and abilities. One of the earliest recognized functions of the junior high school was that of exploration and guidance in order to aid pupils in selecting subsequent courses.

As the high school became popular and began serving the masses rather than the classes, the curriculum expanded further to meet their needs, and the student body became more heterogeneous, until, as mentioned in an earlier chapter, the composition approached a cross section of the total population. This means that one will find persons in high schools who will serve in every capacity and engage in every occupation and profession found in the United States. These two expansions in population and curriculum have created a need for guiding students in the right direction.

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[1] Reported by Kitson, *op. cit.*, p. 261.

[2] *Ibid.*, p. 262.

Evidences of a need for more intelligent direction of student activities are:

1. *Changes in Schedules.*—The increases in the number of courses offered in the high school and the meager knowledge of pupils regarding the content and applications of the courses is responsible for many pupils electing courses which they later drop, or in which they fail. For example, in a large city high school in 1933–34 there were over 2,000 changes of program, or practically an average of one for every student enrolled.[1]

2. *Failures.*—If the American ideal of making the curriculum fit the pupil rather than the converse is upheld, there should be no failures because of a lack of ability or interest. It is, of course, impossible in the small high school to offer sufficient courses to meet the needs of all those attending. If the school is large enough to justify a multiple curriculum, adequate guidance would not merely obviate but would prevent many failures because of maladjustment.

3. *Lack of Motivation.*—Motivation is a concern of the entire school. Regardless of the skill of individual teachers in the classroom, if pupils are not well adjusted they cannot be more than temporarily stimulated to learn. On the other hand, if one is motivated by worthy goals rather than artificial goals, such as prizes, rewards, marks, and punishment, and is directed into a curriculum in which he pursues courses in which he is interested and for which he recognizes a need, artificial stimuli are not needed.

4. *Poor Adjustment in College.*—Not all, but at least some, of the maladjustment in college can be traced to a lack of guidance in secondary schools. When matriculating freshmen in universities on being asked "In what college do you intend to enroll?" reply by asking "What colleges are there?" someone along the line has been guilty of neglect. Failures, elimination, changes in schedules, and transfers from one college to another are all evidence that college students are still faced with the problem of learning how to direct their own lives.

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[1] F. E. Bolton, T. R. Cole, and J. H. Jessup, "The Beginning Superintendent," p. 485, The Macmillan Company, New York, 1937.

5. *Elimination.*—One can make a good case for the claim that all failures, retardations, and elimination are due to maladjustment, and the latter as due to a lack of guidance.

6. *Vocational Misfits.*—It would be an impossibility to determine with any degree of accuracy the extent and number of persons who are not fitted either physically, mentally, or socially for the work they are doing. This is evidenced by the large amount of turnover in industry, unemployment, ill-health caused by the nature of one's work, lack of interest, skill, and aptitude of those following various vocations, and those who are unhappy in their occupations. This problem is further accentuated by the large number of fields of work and the difficulty of becoming acquainted with them.

It would be a bold statement indeed and one which could neither be defended or demonstrated to say that since a lack of guidance causes these maladjustments a good guidance program will eliminate all of them. Ideally, such a program is not out of the realms of possibility, and the prevention of all these evils is a worthy goal; but with our present knowledge, measuring instruments, and our present secondary-school system the most we can hope to do is bring about as much improvement as possible. However, if we are to continue our efforts toward the goal of universal secondary education, it will be necessary to construct curriculums which will benefit all who attend and guide pupils into them.

Who Should Guide Pupils?—The previous discussion has either claimed or implied that the school is the most logical institution to undertake the task of guiding pupils. There definitely is a need, and if the school does not accept the responsibility, who should? Three other agencies might be considered: the individual himself, parents, and pseudoscientists.

1. *Self-guidance.*—Ultimately, the individual should guide himself. The developing in each individual of the ability to guide and direct his own activities intelligently is the ultimate aim. But until he develops this ability he needs direction from others, otherwise his own efforts may be quite costly, or even disastrous. Adolescents are not gifted in self-analysis. They act on impulses, and often do more emotional than rational thinking. They often select courses because they like the teacher or some pupil in the course; a college because of its football team; a vocation because they can ride all day in an automobile. Such selections are made without knowledge or reference to capacity, needs, or true interests. The usual self-

directive methods are trial and error, which often result in changes in courses, curriculum, school, and vocation, or in failure.

2. *Parents as Guidance Counselors.*—Parents have maturity, judgment, experience, and a keen interest in their children's welfare as qualifications for guidance counselors. Likewise, they have ample opportunity to observe and study their own children and discover their interests and abilities, but there are several factors which often cause parents to plan poorly for their own children.

Many parents have been thwarted in their desires in some field either because of a lack of opportunity, lack of ability, or because of various circumstances they could not control. They see in their children, then, a fulfillment of these desires. They try to achieve through their children or complete a career in which they failed or which could not complete. Under such conditions, the children have their lives planned by the parents, who either do not know or are blinded to their interests and abilities.

There is a tendency to place a halo around some vocations and condemn others. The usual parent wants his children to follow the professions or at least the "white-collar" jobs. Still others want their children to have fewer hardships in life than they had and believe certain paths are easier or better for their children than others. Some years ago a farmer remarked, on sending his son to college, "I want him to study Latin so he will not have to work as hard as I did in life." To this farmer, the study of Latin was one of the marks of a professional man, and to him it meant an easier life than that of farming.

Still other parents want their children to live over those experiences they have enjoyed and seldom stop to consider the possibility that their children might not enjoy them. There is, of course, a relationship between the abilities of parents and their children and if the parent had an aptitude for his work, his son or daughter perhaps inherited some ability in this respect. But the relationship is not close enough to predict the ability of a pupil from a knowledge of his parents. The factor of interest might show a closer correspondence, since it is due to training and one has a good opportunity to get acquainted with those of his parents.

If parents could forget their own personal interests and ambitions in directing their children's lives with respect to school curriculums and vocations, the majority of all guidance could be left to them. Parents will always have a great responsibility in moral, personal, and social guidance, and many are qualified in giving vocational guidance. The best situation is obtained when parents and teachers cooperate in guidance. Neither can leave the responsibility wholly to the other.

3. *Pseudoscientists.*—Even in this enlightened age, thousands of persons place confidence in a group of persons who employ a false science in foretelling the future and in giving advice on almost any subject. Many high-school graduates consult them with reference to vocations and probable success in some enterprise. Proof from the psychological laboratories that there is no validity in physiognomy, graphology, numerology, palmistry, and other false sciences has not ended the practice.[1]

The phrenologists have recently invented a machine which fits over the head and which, they claim, lists one's strong and weak traits. Astrologists are still selling horoscopes, although the group has had centuries to prove their claims without avail.[2] It is almost a daily occurrence to hear one claim he has had his palm read, or his handwriting analyzed, or it is common to hear parents or adults say of a child "he has the hand of a musician," or a "surgeon's fingers," or "his high forehead denotes intelligence." A good guidance program in the school will do much to counteract the tendency on the part of many pupils to substitute such false methods as these for the use of intelligence in the solution of their problems.

The School as Guidance Agency.—The school is the logical guidance agency; not because others are limited in their abilities to perform this service, but because guidance is a natural and legitimate part of the school's work. The school has an opportunity to study, observe, and measure pupils in order to determine their capacities. It has trained workers who are familiar with guidance techniques, and, finally, teachers are more able to make an impartial evaluation of pupils. They have the interests of pupils at heart, but, since they have so many under observation, they are not so likely to overestimate the capacities of any one since there are so many others with whom to compare him. Guidance in some form or other is being practiced in every school by all teachers regardless of whether they are conscious of it or not. In helping pupils select courses, arrange their schedules, introducing them to the various fields of study and the world of work, and giving them information concerning further schooling, guidance is constantly being done by all teachers.

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[1] See Donald G. Patterson, "Physique and Intellect," D. Appleton-Century Company, Inc., New York, 1930, 304 pp., for proof that there is little or no relationship between various physical measurements and mental traits; see also Graydon L. Freeman, "Physiological Psychology," pp. 535–550, The Ronald Press Company, New York, 1934.

[2] Hamrin and Erickson, *op. cit.*, p. 11.

The Organization for Guidance.—The time is past when the responsibility and the administering of a guidance program will be delegated to one individual such as the principal of the school or a guidance counselor. This has become a part of the work of every teacher in the school. Furthermore, the program, once initiated, like curriculum revision is a continuous one. Occasional emphasis and sporadic efforts will not suffice, for each pupil must be counseled from the time he enters into other institutions or into some field of work, and as rapidly as one group graduates, new classes enter. A pupil cannot be guided once for all time.

An elaborate organization, although practiced in some schools, is not essential. The entire work should be directed by an administrative officer or someone delegated by him. A suggested plan is to delegate to each teacher a number of pupils, about whom she should secure pertinent information, keep necessary records for recording this information, and then through a series of interviews counsel and direct each pupil assigned to her. A teacher may be the counselor of a single group through a period of years or be assigned a new group each year. If the former plan is practiced, a teacher will have a better opportunity to profit by different opinions. Such teachers may be known as "class advisors," "home-room teachers," or "counselors."

The Home-room Teacher as Guidance Counselor.—It is becoming quite popular to assign to the home-room teacher almost every type of schoolwork. The attitude seems to be "leave it to the home-room teacher," and all further responsibility is ended. Various writers have suggested the home room as the place for supervised study, extracurricular activites, activities of the class as a group, the keeping of records, and guidance. All these have been suggested in order that she might have something to do during the 10 to 30 minutes she meets with the group either daily or a few days a week! One cannot just set aside a period for guidance purposes and expect to accomplish it at that time and place. Rather it is a process that is going on at all times in every class, in all activities, and involves all contacts teachers have with pupils. Information is collected when pupils are observed, and when tests are given; information is recorded when the teacher finds an opportunity; information is imparted in each class where further knowledge of pupils is gained and where they get opportunities to explore various fields; information concerning interests is gained by observing leisure-time reading in libraries, or, in other words, guidance concerns the entire school life and home life of an individual. How then can one teacher be given this entire responsibility for a group and be expected to accomplish it during a brief daily period?

METHODS OF ACQUIRING INFORMATION ABOUT PUPILS

Before any directing, guiding, or counseling of pupils may be done, the teacher must secure all the information possible for her to acquire about each pupil. The information will be that pertaining to his interests, general and specific abilities and aptitudes, and all data which might have prophetic value for the pupil's future activities. The only way one can predict what one will do in the future is to observe what he does at the present and what he has done in the past.

There are two general methods of gaining information concerning pupils: the formal method, or by means of tests and inventories, and the informal, or observations over a period of time. The former has its greatest value in securing information about a large number of pupils whom the teacher has little opportunity to observe carefully, or to gain information about those who have little opportunity to display their interests and abilities through activities. Still another great value of tests lies in their use as a check on judgment. If there is a wide disagreement between judgments of interest, ability, and aptitude and formal measurements of these, little confidence can be placed in either and further study and additional tests are needed to arrive at a valid and reliable conclusion.

Formal Methods of Securing Information.—The number of tests, scales, and inventories on the market for measuring all phases of pupil characteristics is legion. An evaluation of various tests, instructions for administering them, and an interpretation of the results requires a separate volume. For detailed information concerning them one may refer to manuals accompanying the tests or may refer to several volumes dealing with the subject.[1]

The usual tests which are given are:

1. General intelligence tests, verbal and nonverbal.
2. Academic achievement tests.

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[1] One of the best is Walter Van Dyke Bingham, "Aptitudes and Aptitude Testing," Harper & Brothers, New York, 1937, 390 pp.

3. Inventories:
    - *a.* Personality.
    - *b.* Vocational interest.
4. Specific aptitudes:
    - *a.* Mechanical.
    - *b.* Clerical.
    - *c.* Scientific.
    - *d.* Art.
    - *e.* Music.

Two of these tests, general intelligence and achievement, should be given to the entire student body; the others may be given to special groups or individual pupils according to the circumstances or need.

Informal Methods.—The term "informal methods" is used to refer to all methods used in gaining information other than by tests. Information may be secured from the following sources or methods:

1. *Anecdotal Records.*—All teachers in the school should record any activities of pupils which might be of value in guidance. These may be handed directly to the teacher to whom the pupil has been assigned or sent through the school office. Activities giving an insight into special interests, reading, hobbies, health, or special talents should be included.[1]

2. *Interviews.*—During interviews, guidance officers can, by direct questioning and observing, determine the pupil's stated interests, his intentions with respect to schooling and vocations, his personal problems, grievances, likes and dislikes, his family background, and vocational experience. Not one, but many interviews are recommended.

3. *Observation.*—Much can be learned about a pupil by observing his reading and study habits, his social contacts, and his general conduct and participation in activities. Special talents, especially in music, art, literature, and science may be detected.

4. *Home Visits.*—Although there are many exceptions, the general culture of a pupil's home is a good indication of some of his probable future activities. The occupation of his father, the schooling of the various members of the family, and the opportunities for advancement in the home have prophetic value. Home environment correlates positively with vocabulary and with I.Q., and both may be used as an index of success.[2] Likewise a large number of pupil's interests have their origin in the home. Through home visits, teachers may also determine what hobbies and what recreational activities he engages in, the books and

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[1] For a further discussion of the anecdotal record, see Traxler, *op. cit.*, pp. 189–202.

[2] N. B. Cuff, Social Status and Vocabulary, *Pedagogical Seminary*, **46**, (March, 1935), pp. 226–229.

magazines he probably reads, and from a consultation with his parents learn additional facts which might help in counseling.

The home background will also reveal whether the pupil is encouraged to attend school or not, is upheld in delinquency or trained in ethical character, and whether, because of economic conditions, he is likely to continue his schooling or be compelled to enter industry at an early age.

5. *Vocational Experience.*—Many high-school pupils have had vocational experience either during summer vacations or before and after school hours. From this experience one may learn whether a pupil showed any particular or special aptitude in the types of work he did, and his interests in these fields. If necessary, a talk with his employer will substantiate or act as a check on the pupil's own estimate of his success.

6. *School Activities and Elective Courses.*—One can determine ability and aptitude in required courses, but an inventory of interests must be made from elective courses and activities, providing, of course, that participation in the activities is purely optional. Activities offer an outlet for self-expression, give one an opportunity to explore various fields, discover new interests, and, perhaps, uncover an undeveloped ability or talent.

7. *Physical Examination Record.*—Success in schoolwork as well as future activities is often impaired by poor health or physical defects. A physical-examination record should be a vital part of guidance data, for various defects of sight and hearing, or frequent absences due to illness, may reveal the cause of poor schoolwork, lack of interest, and retardation. On the vocational side, it will reveal the fields of work he should be encouraged to enter or avoid.

8. *School Marks.*—One function of educational tests is to predict vocational and academic success, and academic success can be used in predicting vocational success. If a student has already shown his ability to achieve in a subject through school marks over a period of years, more confidence can be placed in the marks than in the prognostic test, for the latter can sample his ability only for the duration of the testing period. For example, a prognostic test might indicate an average ability in algebra for a given pupil, but he actually revealed much more than that when he pursued a course in algebra. The greatest confidence can be placed in the latter, providing reliable marks are given.

There are some subjects closely related to certain vocations and professions, as mathematics to engineering, and mechanics; science to medicine; and English to journalism. One who does not display any marked ability in key subjects has a poor chance to succeed in certain fields. Furthermore, success or failure in beginning courses is excellent evidence of success or failure in subsequent courses.

Exploratory courses in the junior high school are excellent indicators of courses to be avoided or pursued in the senior high school.

Exploration is especially recommended in the fields of business education and languages. The courses should be so organized and the content so selected that pupils will be able to profit by them even if they are not pursued further, and they should become well enough acquainted with the subjects so that they will not have false interests in them. With the aid of the teacher their own aptitudes can be detected.

RECORDING GUIDANCE INFORMATION

Counselors should never try to keep pertinent data concerning pupils in their heads or on records which are carelessly kept and filed. Several recording devices may be employed, such as the card file, with the cards filed separately or in packets, and the filing folder, on the back of which provision is made for recording standard or uniform data, and in which one may file additional information. The latter method seems to have numerous advantages. It makes provision for formal and informal records, and keeps all the materials of each pupil together. There are several guiding principles for keeping them:

1. They should be cumulative, *i.e.*, additional information should be added to existing data.
2. Records should follow pupils from grade to grade, and, if possible, from school to school. It is a waste of time for each new teacher who helps guide a pupil to be forced to begin "from scratch" and be denied the findings of others.
3. They should be kept by home-room teachers or counselors and any teacher who has information should send it to the appropriate one.

Items on Standard Records.—It is a waste of space and time to have provisions for securing needless information on records, or to secure information and not make use of it. The basic or standard forms should contain a minimum number of items, carefully selected, and if additional ones are needed they may be recorded on separate sheets of paper and filed in the folder. Basic records should contain the following date which are considered essential:

1. Personal data; name, age, date of birth.
2. Family: occupation, race, schooling, members.
3. Residence.
4. Home conditions.
5. Elementary scholarship.
6. Health.

7. Interests.
8. Results of elementary achievement and intelligence tests.
9. High-school scholarship.
10. Results of high-school achievement and intelligence tests.
11. Aptitude tests, specific and general.
12. Honors received.
13. Extra-activities record.
14. Vocational experience.
15. Postgraduate record of employment or further schooling.[1]

IMPARTING VOCATIONAL INFORMATION

Before students can solve any of their puzzling and perplexing vocational problems, either with or without help, they need two types of information: (1) knowledge of the world of work and the many vocations and (2) knowledge of themselves.

Many pupils make unwise vocational choices because of a lack of information, faulty information, or because of the high social and economic status of various vocations. Likewise, faulty information or a lack of information about themselves may lead to unwise solution of problems. If one is not acquainted with his own abilities with respect to those persons engaged in a particular vocation, he will not know his chances of success or failure. It is not unusual for those of low abilities to elect a major profession, and one of high ability to choose one requiring a less ability than he possesses. Pupils are given knowledge about themselves through the interview, and knowledge and information about vocations by various methods.

Regular Courses.—No teacher, in any course, should ever miss an opportunity to point out vocational avenues leading from the subject being taught. If the teacher's knowledge of her subject extends little beyond the textbook, this phase of her work will be slighted. Alert teachers will keep in touch with vocations and analyze needs of those engaged in them. While discussing teaching opportunities in a university class some years ago, a senior spoke up and said, after a particular field was mentioned, "That is just what I would like to be." With a loss of over a year's work he started preparing himself for this vocation. If he had been introduced to this field earlier in life, much time would have been saved. *Many persons pursue certain vocations merely because they are not acquainted with any others.*

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[1] See Traxler, *op. cit.* Chaps. IV, V, and VI are devoted to the cumulative record and its use.

In rural schools there are some who hold to the idea that teachers should teach in such a manner as to "keep boys on the farm." There is no more reason for encouraging every pupil in a rural school to be a farmer than to encourage all in an urban one to be factory workers. There is no essential difference between the guidance program and the attitude of teachers toward various vocations in rural and urban schools.

Teachers should avoid the usual error of speaking only of the major professions and assuming the attitude that all high-school pupils should limit their thinking to a consideration of the higher vocations. Several decades ago this assumption had more validity, but now that the masses are attending high schools, they are no longer selective. This tendency on the part of teachers is another of the many reasons for the wide discrepancy between pupils' choices and the number engaged in that field or the opportunities available. As shown in Table 50, the choices are numerous in the professions, in which there are few opportunities, while the choices in such fields as clerking and barbering are few compared with the opportunities.

TABLE 50

VOCATIONAL CHOICES OF 1,000 BOYS AND THE NUMBER OF WORKERS PER 1,000 ENGAGED IN THESE VOCATIONS*

Vocational	Choices per 1,000	Workers per 1,000
Physicians	105	5
Lawyers	64	8
Automobile mechanics	51	19
Electricians	33	11
Stenographers	13	2
Clerks	4	89
Barbers	5	10

* From Walter Van Dyke Bingham, "Aptitudes and Aptitude Testing," p. 108, Harper & Brothers, New York, 1937.

Free Activities.—Free activities should be an outgrowth of and closely related to the regular curriculum, and further the same general aims. It follows, then, that activity sponsors should impart vocational information through them as well as in regular course work.

Excursions.—An excellent manner in which to acquaint pupils with various vocations is by means of the excursion. To have value in this respect the teacher should make that the specific aim, rather than one of determining a manufacturing process, or some other process of operation. Visits should be well planned and only those who have shown at least some interest in a given field should join the visiting group. Every local community offers opportunities, such as trips to banks, stores, courthouses, factories, industries, and the offices of business and professional people. Since little of the life of professional workers can be observed in their offices, visits to these are perhaps less valuable than others. The professions should be studied in another manner.

Assembly Talks.—Occasionally some professional man from the community may be invited to speak before the student body as a whole or before small groups on the training, requirements, and opportunities in his profession. The one caution to be observed in this practice is the danger of lowering the subprofessions and skilled trades in the eyes of many pupils, by ennobling and stressing the professions. This might be prevented by having a speaker discuss a profession only before those revealing a definite interest.

Vocational Tryouts.—Many schools are practicing what is known as the cooperative plan, *i.e.*, securing part-time employment either with or without pay, for those pupils who will, in all probability, enter industry immediately following, if not before, graduation. The time not spent in employment is spent in school. Close contact is kept with the pupil by the school officials who cooperate with his employer. After a reasonable tryout period, if the pupil does not display an interest or aptitude he should be transferred to another type of work.

This plan should be practiced by all high schools, but all pupils should not be included in the plan. This, perhaps, is one of the best and most valid methods of determining fitness for any type of skilled work. If a pupil were to pursue these tryout periods after graduation without guidance, as many do, he would perhaps take the first job he could get and even though he had only mediocre success and little interest, would continue in the position because of the difficulty of locating something better.

Open-shelf Library.—The bibliography at the end of this chapter lists a number of books suitable for high-school pupils. These together with pamphlets and magazines should be housed on open shelves where they will be available to all pupils, who should be encouraged to browse among them.

The Vocations Course.—A survey conducted by Koos and Kefauver of guidance practices in secondary schools revealed that one-third of all schools surveyed offered a course in occupations, and 65 per cent of all the junior high schools offer it.[1] Besides informing pupils of various occupations, the course has educational value in showing the interdependence in all fields of work. There is some doubt as to the advisability of a separate course in occupations. If many occupations are studied, the amount given about each one would not be enough to justify any treatment; if few, then only a few pupils will find the course in which they are most interested. There would be a tendency also to shift all the responsibility of imparting vocational information, and perhaps other phases of the guidance program, onto the occupations teacher. Furthermore, individual differences are so varied they preclude group instruction of this type. To be of value it would have to be taught on an individual basis, and that can best be done by the other methods discussed. Considering it from all angles, the course cannot be highly recommended.

INTERPRETATION OF GUIDANCE DATA

It is not a very difficult task to gather information concerning pupils, to administer various types of tests, and to make inventories, but it is extremely difficult to interpret these data. The interpretation is by far the most important phase of the entire program and the one requiring the greatest amount of skill, knowledge, and judgment. Many cautions must be observed or untold harm may be done.

No teacher should ever attempt to interpret vocational information until she has studied carefully what each type of information indicates. Especially is this true with reference to test results. Not only should one study the test manuals very carefully but also some text on the subject. The authors' experiences with parents has convinced them that many are skeptical of, and place little confidence in, test results merely because of their misuses and false interpretations by teachers and administrators who did not know how to interpret them.

The Theory of Aptitude Testing.—An aptitude test is merely an achievement test with known validity with respect to some capacity which will give an indication of future performance. These may be general or specific. The fundamental assumptions, principles, and facts on which prognostic testing is based may be summarized as follows:

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[1] Leonard V. Koos and Grayson Kefauver, "Guidance in Secondary Schools," The Macmillan Company, New York, 1932. See pp. 71–107 for a complete discussion of the occupations course.

1. *What one has done in the past and his present performance are indicators of what he can or will do in the future.* If this were not true, one could never predict any future activities of individuals. The movements of inanimate objects not guided by intelligence, but which have a pattern of action, as planets, may be predicted accurately. Those guided by pure chance cannot be predicted. Individuals are guided by chance, emotions, intelligence, tastes, whims, fancies, circumstances caused by external and internal influences, economic and social conditions, and by other people. This causes human variations and changes in patterns of conduct. Likewise pupils are maturing, not mature, in high school, and this is a process of change. *Therefore, exact predictions are not possible with human beings.* However, patterns of conduct are established quite early in life, and change rather slowly, so that within limits one can determine the future from past and present activities.

2. *Aptitudes are rather stable.* A child who displays an aptitude in art, for example, unless altered by environmental circumstances will display the same talent on reaching maturity. Informal observations of this are common. One would be quite surprised if he had a friend who was talented in art, and a few years later this person was found to have no art ability, or to find that one not so talented all at once became a great artist. This fact makes it possible to discover aptitudes at an early age and begin training, with confidence that the person being trained will not wake up some morning without the aptitude.

3. *Pupils are not predestined to fill some specific niche in this world for which they are especially constructed.* We need not fear that if this niche is not found they will be forever out of place. Most persons can do many things equally well, and enjoy doing one as well as another, providing these are congruous with their abilities. There is no such thing, for example, as one being a "born aviator," for there are many things a good aviator could and can do. People are quite capable of making adaptations, and if circumstances do not lead them into one field, they can find success in another. Again, this statement is true only within certain limits. In this modern world with its division of labor there are many occupations so closely resembling each other that one can succeed in a large number of them.

4. *People not only differ from each other, but they differ within themselves.* Most traits of an individual, like those of many individuals, are normally distributed; that is, most of them cluster around a central tendency with few of them deviating either very high or very low. Although there is a marked positive correlation between the amounts of all mental traits possessed by an individual this does not mean they are all uniform, but that they all seem to be dependent upon a general factor.[1] However, there are exceptions to the general statement that one displays about equal abilities in various traits. These exceptions, when they occur, are found in mathematical, linguistic, mechanical, graphic, and musical abilities, and of these five the graphic and the musical appear not to agree closely with general mental ability. While mechanical ability is closer to mental ability, it is not so close as linguistic and mathematical.[2] Sensory abilities do not cluster as intellectual abilities, while the widest deviations are in motor abilities which seem to be independent of each other.[3]

There are two implications of these findings for guidance: first, one can get a general estimate of all of a pupil's traits by sampling; and second, if one has any special abilities, they are the most logical ones to be discovered and trained. One should avoid work in his special disabilities, unless they are really needed in a chosen field. In that case, past experience indicates they can be improved through training.

Characteristics of Good Aptitude Tests.—Before selecting an aptitude test, one should have a very definite purpose in mind for its use. Its value, then, will be in proportion to the extent it actually serves its purpose. Aptitude tests are limited in their use, and one should never expect a test to do more than it was designed to do. The chief characteristics of tests which may be used as a basis for their selection are:

1. *Validity.*—Validity is defined as the ability of a test to do what it purports to do. Aptitude tests are validated by determining the extent to which they differentiate between those who have achieved in a certain field and those who are definitely nonachievers. Proficiency in any occupation which can be completely analyzed can be predicted. The reason no tests have been made which select

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[1] Frank S. Freeman, "Individual Differences," pp. 61–62, Henry Holt and Company, Inc., New York, 1934.

[2] *Ibid.*, p. 291.

[3] Bingham, *op. cit.*, p. 31.

salesmen is that there seems to be no unit characteristics which can be analyzed which are symptomatic of success in this field. Music, for example, lends itself to analysis to such an extent one can make rather accurate measurements of musical talent.

2. *Reliability.*—The degree to which a test gives consistent results and can be depended upon is called "reliability." It may be reliable, but not valid.

3. *Administrability.*—Some tests can be administered easily. Most modern tests are so constructed that with little training a teacher can administer them with ease, but there are some, as the Stanford Binet, which require a skilled person to administer. Teachers not especially trained in administering tests should not attempt them.

4. *Types of Norm.*—One of the essential features of interpretation lies in the type of norms. They should be based on a wide sampling and stated so that one can interpret scores in terms of probabilities of success or failure in the fields for which the test was constructed.

5. *Ease of Scoring.*—The majority of tests are supplied with scoring keys and are designed to make scoring relatively easy. Some, like the Strong Vocational Interest Blank,[1] are quite complicated, and can be scored only by a trained person.

6. *Objectivity.*—Regardless of who scores the tests, if the same results are secured, the test is said to be objective.

7. *Cost.*—The most expensive test is not always the best, or vice versa. The least expensive test which meets all requirements is the logical one to select. It is false economy to purchase certain tests merely because they are inexpensive.

These standards should always be considered in the selection of tests and those which have the highest rating on these factors are to be preferred. To facilitate the application of these standards, one may employ a score card.[2]

Intelligence and Aptitude.—Intelligence-test scores cannot indicate the occupation one should follow. They indicate the degree of mental ability, but not the direction in which it can be applied. If the various vocations are ranked from manual labor through skilled trades to the professions, there will be a successive increase

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[1] Strong's Vocational Interest Blank, Stanford University Press, Stanford University, Calif. The cost of having each test scored is $1.

[2] A. S. Otis, Scale for Rating Tests, *Test Service Bulletin* 13, World Book Company, Yonkers-on-Hudson, N. Y., p. 6.

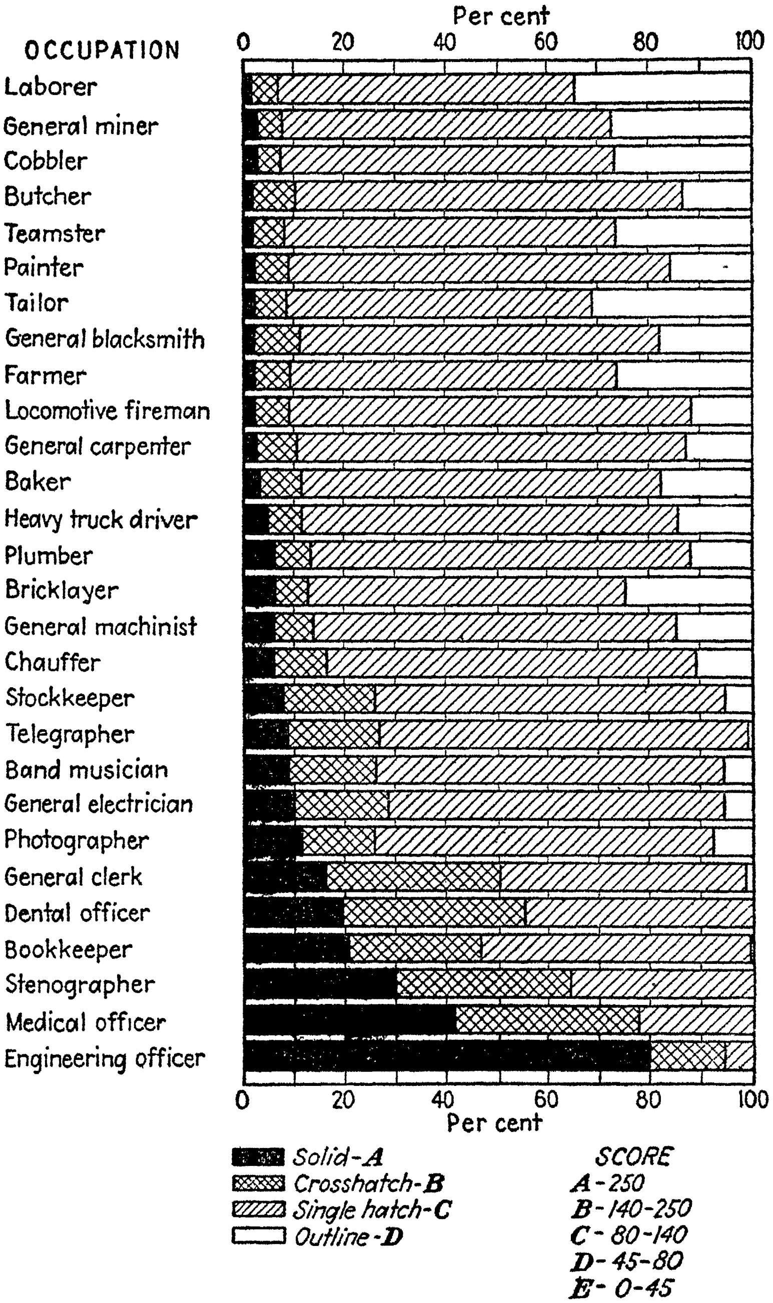

FIG. 37.—Percentage distribution of scores on Army Alpha of men of certain occupations. [*Based on Memoirs of the National Academy of Sciences*, **15** (1921), *Table* 378, *p.* 828; *L. V. Koos and Grayson Kefauver*, "*Guidance in Secondary Schools,*" *The Macmillan Company, New York*, 1932, *p.* 300.]

in the amount of mental ability required for success from the first to the last, and one who is not intellectually strong would have little chance of success in the professions, but at the same time, one with high intellectual ability may not necessarily be qualified for any profession, for he may not have other necessary traits to accompany it. As shown in Fig. 37 the majority of those who were engineering officers in the First World War made scores on Army Alpha equivalent to an A rating. If a pupil makes an equivalent score on the same test, this is not sufficient evidence to assume he should be an engineer. If he has the other characteristics along with this ability, then he may be encouraged to pursue this profession.

This same conclusion applies to all occupational levels shown in Fig. 37. One is far more likely to be happy in a vocation in which he can excel or have a relatively high degree of success than in one

TABLE 51

NORMS FOR INTERPRETING ARMY ALPHA SCORES*

Army letter rating	Army interpretation	Alpha scores	Kohs-Proctor Stanford-Binet mental ages	School grade equivalents	Occupational intelligence standards	Per cent of white draft in each letter grade
A	Very superior	135–212†	18-0 to 19- 6	Superior record in college	Major professions	4.1
B	Superior	105–134	16-0 to 17-11	Average record in college	Lower professions and semiprofessions	8.0
C+	High average	75–104	14-0 to 15-11	Capable of completing academic high-school course	Technical, clerical, and supervisory positions	15.0
C	Average	45– 74	12-0 to 13-11	Rarely capable of completing academic high-school course	Skilled trades, lower clerical and routine sales jobs	25.0
C−	Low average	25– 44	10-8 to 11-11	Capable of completing 7th and 8th grades	Semiskilled levels of work	23.8
D	Inferior	15– 24	10-0 to 10- 7	Capable of completing 5th and 6th grades	Unskilled levels of work	17.1
D−	Very inferior	0– 14	0-0 to 9-11	Special classes for subnormal	Capable of simple work under close supervision	7.0

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* Donald G. Patterson, G. G. Schneidler, and Edmund G. Williamson, "Student Guidance Techniques," p. 59, McGraw-Hill Book Company, Inc., 1938. Used by permission of W. S. Miller, University of Minnesota.

† In the later forms of Army Alpha, the range of possible scores is 0 to 212. In earlier forms, as shown in Fig. 47, they are higher.

beyond his ability in which he finds the competition so keen he can enjoy only a moderate degree of success. Intelligence-test scores, for this and other reasons, predict failure better than success, for if one's intelligence quotient is low, he cannot succeed beyond certain levels; but if it is high, that fact alone is no guarantee of success, for other factors of success such as interest, tastes, ideals, attitudes, industry, social ability, and personality are not measured by them. Furthermore, intelligence tests indicate general ability—not certain specific aptitudes, as mechanical ability, art, and musical talent, which are needed along with general mental ability for success in certain fields. Norms for interpreting Army Alpha scores are shown in Table 51.

Intelligence and Academic Success.—The extent to which intelligence test scores are related to academic success and occupations may be designated by coefficients of correlation. These coefficients range from 0 to 1.00 and may be both positive and negative. Zero means no relationship, 1.00 means perfect correspondence, while values between zero and 1.00 show degrees of relationship. A coefficient must be .80 or better to have great value for individual prediction, while coefficients of .40 and above have value in dealing with groups.

Intelligence-test scores are quite valuable in guiding pupils in their selection of courses. It requires a higher degree of intelligence to profit by some subjects than by others. It has been estimated that one should have a minimum I.Q. of 120 in order to gain much from a course in Latin. Such subjects as algebra, geometry, physics, and chemistry require a higher degree of ability than social studies and English. However, the lack of perfect correspondence between intelligence and marks is due to the fact that one can compensate for a lack of ability by harder work, and because other factors as study habits, reading ability, and past experience also contribute to achievement. Coefficients of correlation usually found between intelligence and achievement in various subjects are shown in Table 52.

Likewise, in choosing a high-school curriculum, the intelligence quotient should be considered. The average I.Q. of the college-preparatory group is about 110, while that of the commercial group is 99, and of the trade-school group, 91 (Table 53). If one has an I.Q. very far below these averages, chances of success will be low.

According to Mursell, "If we pool the estimates of competent persons, we find that an I.Q. of 110 is probably needed to complete freshman algebra at all adequately, as the course is now given in high school. For physics it has been suggested that the critical score is an I.Q. of 108."[1]

Interest and Aptitude.—Regardless of one's capability in some field, if he does not have a readiness to acquire proficiency he will not achieve any great success, for he will not have the necessary drive required to train himself. Thus, interest should be included as an important phase of aptitude.

TABLE 52

COEFFICIENTS OF CORRELATION BETWEEN INTELLIGENCE-TEST SCORES AND ACHIEVEMENT IN VARIOUS ACADEMIC SUBJECTS

Subject	Coefficients of correlation	Subject	Coefficients of correlation
English	44 to 47*	Social studies	.27 to .52‖
History	17 to 41*	Latin	.17 to .44‖
Algebra	.47 to 558†	Industrial arts	.10 to .15‖
Geometry	44 to 542†	Fine arts	.22 to 30‖
Physics	76‡	Home economics	.12 to 41‖
Foreign language	49§	Commercial	.01 to .18‖

* A. M. Jordan, "Educational Psychology," p. 363, Henry Holt and Company, Inc., New York, 1928.

† J. Murray Lee and W. Hardin Hughes, Predicting Success in Algebra and Geometry, *School Review*, **42** (March, 1934), pp. 188–196.

‡ A. W. Hurd, The Intelligence Quotient as a Prognosis of Success in Physics, *School Review*, **34** (February, 1926), pp. 123–128.

§ J. N. Jordan, Prognosis in Foreign Language in Secondary Schools, *School Review*, **33** (September, 1925), pp. 541–546.

‖ J. Murray Lee, "A Guide to Measurement in Secondary Schools," p 81, D. Appleton-Century Company, Inc., New York, 1936.

There is some positive relationship between interests and educational success as measured by intelligence tests, school marks, achievement tests, and interest inventories, but the relationship is too low to be of any value in predicting success.[2] Fewer studies have been made regarding the relationship between interests and vocational success than between them and academic success, but those made show that one cannot predict vocational success from estimates of interest. The theory persists, however, that interests

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[1] James L. Mursell, "The Psychology of Secondary-School Teaching," p. 329, W. W. Norton & Company, Inc., New York, 1939.

[2] Douglas Fryer, "The Measurement of Interests," p. 195*ff*., Henry Holt and Company, Inc., New York, 1931.

TABLE 53

MEDIAN I.Q.'S OF PUPILS ENROLLED IN VARIOUS SECONDARY-SCHOOL CURRICULUMS*

School and curriculums	I Q.	
	Boys	Girls
Comprehensive school		
General	98.9	101.6
Academic	105.9	108.2
Scientific	106.1	97.2
Commercial	100.0	98.9
Fine arts	101.9	104.3
Industrial arts	97.5	
Household arts	.....	95.7
General school		
General	107.6	109.5
Academic	106.2	109.5
Scientific	108.0	
Commercial	103.7	103.5
Fine arts	....	102.9
Industrial arts	94.6	
Household arts	....	93.0
Technical school		
College preparatory	114.0	
Commercial school		
All curriculums	101.8	98.9
Trade school		
All curriculums	92.4	89.1

* Grayson N. Kefauver, Victor H. Noll, and C. Elwood Drake, The Horizontal Organization of Secondary Education, National Survey of Secondary Education, Monograph 2, *U.S Office of Education Bulletin* 17, 1932, p. 138.

are causative factors in success over a long period of work.[1] One must have a motive to succeed in any task, but it does not have to be interest in the task itself. The importance of interest as a motivator in both academic and vocational work lies in the fact that one is happier if he has an interest in the task itself rather than in external activities. However, Strong reports that several investigations indicate that those who have a low interest score on the Strong Vocational Interest Blank are very likely to fail in courses pertaining to that occupational interest.[2]

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[1] *Ibid.*, pp. 220–221.

[2] Edward K. Strong, Jr., "Manual for Vocational Interest Blank for Men," p. 4, Stanford University Press, Stanford University, Calif., 1939.

Since interest inventories have little relationship to ability, they evidently measure factors other than intelligence, so they will be more likely to indicate the curricular or vocational choices students *will* make rather than the ones they *should* make if they are to be congruous with aptitude and ability. But even this is not always true for Strong reports that 18 per cent of a group of college students entered professions for which they have no interest,[1] while Fryer reports that 50 per cent of a group of workers, mostly pursuing "white-collar jobs" frankly admitted they were not interested in their work.[2]

Some conclusions drawn by Fryer concerning the permanence and practicalness of interests, valuable in guidance work, are:

> 1. The permanence of interests increases with age, experience, and information. There are about 42 chances in 100 that a pupil will continue a certain interest development through school, and through the elementary school, high school, and college there are 50 chances in 100 that one can predict the interest trends of individuals.[3]
>
> 2. Small children have impractical interests, and those of late adolescence are more practical than those of early adolescence. After some study, experience, and maturity, interests become more practical. One of the impractical features is that of the wide disparity between the interest choices made by pupils and the number of available opportunities in that field.[4]
>
> 3. The relationship between interests and ability increases with age and knowledge of the occupational world and of personal qualifications.[5]

Interests may be measured informally by observation of activities, leisure reading, classroom responses, and in written work, or formally, through inventories. Perhaps the best known inventory is the Vocational Interest Blank by Edward K. Strong.[6] Although it may be administered to pupils under 18 years of age, the same degree of confidence cannot be placed in the scores as for students above this age. Although this method seems to be as reliable as any employed, there are three sources of inaccuracy in reported interests; informational errors, or those due to faulty information; generalization errors, or those due to false conclusions from known facts, and prevarication. The latter is due to a tendency to report an interest in those things which are associated with a higher social or economic level, or because it is considered "smarter" to show an interest in some things than in others, *e.g.*, to read Shakespeare rather than popular literature.

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[1] *Ibid.*

[2] Fryer, *op. cit.*, p. 163.

[3] *Ibid.*, pp. 150, 151–158.

[4] *Ibid.*, pp. 158–166.

[5] *Ibid.*, p. 203

[6] Strong, *loc. cit.*

Achievement and Aptitude.—If one shows his ability to achieve in some subject basic to proficiency in a vocation, this subject has predictive value for that calling. Mathematics is necessary and basic in engineering, physics, and electrical work. More boys fail in West Point because of mathematics than any other subject. In a boys' vocational school one of the instructors remarked to the writer that one of the most general handicaps of the boys in learning mechanics was a poor knowledge of the fundamentals of arithmetic, especially of common fractions.

Likewise, achievement in science, languages, and art will indicate probable success in certain vocations, and also in future courses either in high school or in college. In Table 54 is shown the relationship between high-school success and achievement in college.

Owing to the fact that school marks often include factors other than achievement, standardized achievement-test scores are more valuable for some purposes than marks. Not only will achievement-test scores indicate success in subsequent courses in the same field but also in related fields. In Table 55 is shown the relationship, in terms of coefficients or correlation, between achievement in various subjects and subjects in the same or different fields, which shows there is a common causative factor of success in both fields.

Special Talents and Aptitudes.—Special abilities such as art, music, and clerical and mechanical aptitude may be detected by observation of pupil activities and responses, actual performance in exploratory classes, or by means of tests. In each of these fields tests have been constructed, such as the Meier-Seashore Art Judgment Test, the Kwalwasser-Dykema, or the Seashore Musical Aptitude Tests, the Detroit Clerical Aptitude Examination, and the Minnesota Mechanical Aptitude Tests. These tests should be given only to those who show some ability or who desire such tests, as it would be costly in time and money to give them to all pupils of the school.

Personality.—One's fitness for certain vocations is not complete unless he possesses the right kind of personality for the work. Those engaged in distributive work, as salesmen, and those in contact with people, as ministers, doctors, teachers, and lawyers, require a personality of the type that is sociable; while in those fields in which there are fewer contacts with people, the same degree of sociability, though not a handicap, is not so essential.

TABLE 54

COEFFICIENTS OF CORRELATION BETWEEN GENERAL TESTS GIVEN TO ENTERING FRESHMEN AND THE AVERAGE MARK FOR THE FIRST QUARTER IN COLLEGE[*]

Measure	Coefficient of Correlation[†]
Minnesota College Ability Test	.49
Minnesota Reading Examination	46
Iowa English Training Test	.38
Minnesota Placement Test in English Literature	.36
Chapman-Cook, Speed of Reading Test	.31

[*] Adapted from Alvin C. Eurich, "The Reading Abilities of College Students," p. 27, University of Minnesota Press, Minneapolis, 1931

[†] Based on 250 cases. Probable errors are 03 or .04.

TABLE 55

RELATIONSHIP BETWEEN ACHIEVEMENT-TEST SCORES IN VARIOUS SUBJECTS[*]

Achievement in	Coefficient of Correlation
English and foreign languages	.40 to .70
Arithmetic problem solving and silent reading	.36
Arithmetic and algebra	.69
Same with intelligence constant	.52
Arithmetic and geometry	.27
Same with intelligence constant	.04
Algebra and geometry	.54[*]
Algebra I and algebra II (one year apart)	67[*]
Physics and chemistry	.71 to 72[*]
Latin and English marks	.54[†]
Latin and mathematic marks	.68[†]
English and mathematics marks	.51[†]

[*] James L. Mursell, "The Psychology of Secondary School Teaching," p. 333, W. W. Norton & Company, Inc , New York, 1939.

[†] W. S. Allen, A Study in Latin Prognosis, *Teachers College Contributions to Education* 135, Teachers College, Columbia University, 1923.

COUNSELING

Interviewing pupils and conferring with them concerning their academic and vocational problems should not be confined to a single interview at the time of graduation, but should be at intervals throughout the entire schooling of an individual. There are at least three types of interviews, one for securing information and getting better acquainted with the pupil; another for academic counseling, and the third for vocational counseling. These interviews should be as informal as possible and pupils should be encouraged to request them. Their success will depend on the one hand upon the extent to which pupils are caused to feel free to express themselves and have confidence in the counselor, and, on the other, on the attitude of the counselor, his knowledge of the pupil, and his ability to interpret guidance data.

Counselors should seldom give advice. One is never certain what is "best" for an individual. If a pupil is inclined to pursue one course and available information indicates his chances of success in it are not great, he should be informed of his low chances and an attempt made to get him into another field. He should never be told he will fail in some activity or assured he will succeed in some other type, regardless of the chances of failure or success. The final choice in any problem requiring a selection should be reserved for the student. If his choice is poor, further study, experience, and knowledge of himself will usually reveal it to him, and he will make his own change.

Common sense should be constantly observed. A wise counselor will always keep in mind the chances that test scores may have placed the pupil in the wrong category due to the fact that at best they are not perfectly reliable and valid, that mistakes might have been made in tabulation or scoring, or that the pupil did not perform at his best while taking the test. Another point to keep in mind is that guidance data are not solutions to problems. They are merely the materials with which one works in solving problems.

An example will illustrate the misuse of data in guidance. A certain school required that all candidates for admission had to make a score above a certain critical point on an intelligence test before they would be admitted. This critical score was determined from past experience, and was designed to eliminate failure prospects. Through an oversight, a student who was not given the examination was admitted. Four years later when ready to graduate the oversight was detected, and the student was told he would have to pass the entrance examination before he could graduate! The student took the tests and failed and was told he would not even be allowed to enter. He replied, "But I'm already here and ready to graduate." To solve the problem, the same test was given again and again until his score, by chance, went above the critical point, which satisfied the officials. The best evidence of achievement *is achievement*, not predicted achievement by means of some instrument. Naturally, if we can help students avoid failure we have done them a favor. If this student had been given the test when seeking admission, and had failed, he would probably have entered another school or field of work where chances of success were greater for one of his capacities. By excluding all whose scores were below this level, many failures were prevented, but at the same time several persons who would have succeeded were denied admission. Some say all should have been given the right to try, and that it is better to have tried and failed than never to have tried at all.

Follow-up Work.—Too often we have the attitude of finality with high-school graduates. Because graduates do not continue to attend the school, because they have completed a prescribed course of study, is no reason for assuming they are competent to direct their own lives, and the school should not lose sight of them. They should be observed in whatever they do, whether they enter industry or continue their schooling, for their success or failure is the school's chief evidence of the validity and efficacy of the entire guidance program. Graduates should be encouraged to return to the school at any time for counseling and assistance. The cumulative record should make provision for recording follow-up data and should include such factors as types of employment, duration of positions, and ratings of employers. If a pupil continues his education, records should be kept of his academic success.

Whether an employment bureau should be maintained is a matter of choice and opinion. Certainly it is a part of the school's work to help place pupils in industry.

Evaluating the Guidance Program.—There are many objective criteria, as well as subjective estimates, which may be employed to evaluate the guidance program. In planning the original program and organizing for guidance, the aims and objectives should be formulated, and desirable outcomes stated. In the light of these and established goals the evaluation should be made. Worthy aims of a guidance program, similar to those mentioned early in this chapter, may be used as guiding principles of evaluation. The evaluation should be concurrent with the program itself rather than after it has been in operation for some time.

The evaluation should include objective evidence concerning these divisions of the guidance program:

1. Teachers:
    a. Extent of participation and interest in the program.
    b. Amount of training in service.
2. The pupils:
    a. Extent of reduction of elimination, failures, and retardation.

   - *b.* Extent to which pupils are adjusted to their curriculums.
   - *c.* Degree of success after graduation.
3. The curriculum:
   - *a.* Extent to which curricular development has proceeded in the light of pupil interests and abilities.
   - *b.* Degree of relationship between curricular requirements and individual needs.
   - *c.* Amount of flexibility in the curriculum as a whole.
4. The development and use of a cumulative record system.
5. Interest in and cooperation of the parents in the school.
6. Improvement of the testing and marking system of the school.[1]

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[1] See Traxler, *op. cit.*, pp. 39–43.

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CHAPTER XVII

THE SECONDARY-SCHOOL TEACHER

When Mark Hopkins defined a school as a log with a teacher on one end and a pupil on the other, he implied that they were the most essential features of a school. Regardless of what else a school may have, all of them have these two features. Recently, a greater emphasis has been placed upon the curriculum and on buildings and equipment. Certainly these are essential, for a school is more than a teacher and a pupil. At the same time, however, bricks and mortar do not make a school. All of these features are essential—teachers, pupils, curriculum, buildings, and equipment—but a school can be no better than the teacher.

Education is more than the school one attended; it is an institution. It is designed to cause learning to proceed more rapidly and toward definite goals. The success of the enterprise should be measured in terms of pupil growth toward these goals. If no learning has taken place, the school has failed. Granted that the teacher is only a part of the total environment of the school, and that learning may take place in all the contacts pupils make in this environment, the teacher, nevertheless, maintains a most important position, for it is she who determines the goals, stimulates, guides, and directs the pupils, selects the learning activities, and is responsible for creating the environment of the school.

The present chapter is designed to acquaint those who are pursuing professional courses preparatory to becoming secondary-school teachers with the teaching profession and its possibilities. A recent survey has shown that one-fourth of the people enrolled in universities and colleges in the United States are specializing in education and presumably preparing to teach.

DESCRIPTION OF SECONDARY-SCHOOL TEACHERS

There are 301,937 persons employed in secondary schools as teachers, administrators, supervisors, librarians, and guidance counselors (Table 56). The majority, or 272,713, are classroom teachers.

Contrasted with the schools of Europe, where the majority of secondary-school teachers are men, those in the United States are staffed by a majority of women. The number of men, as compared with the number of women, increases from the junior to the senior high school. In all secondary schools the ratio of men to women is 1.0 to about 1.4.

TABLE 56

NUMBER OF TEACHERS, BY SEX, EMPLOYED IN SECONDARY SCHOOLS OF THE UNITED STATES, 1937–38*

Type of school	Number of teachers		
	Men	Women	Total
Reorganized high schools			
Classroom teachers	56,781	90,941	147,722
Administration, superintendents, and others	9,325	7,236	16,561
Total	66,106	98,177	164,283
Nonreorganized schools			
Classroom teachers	55,659	69,332	124,991
Administration, superintendents, and others	7,725	4,938	12,663
Total	63,384	74,270	137,654
All-day high school			
Classroom teachers	112,440	160,273	272,713
Administration, superintendents, and others	17,050	12,174	29,224
Total	129,490	172,447	301,937

* Statistics of Public High Schools, 1937–38, Biennial Survey of Education, *U.S. Office of Education Bulletin* 2, 1940, pp. 80–82.

It is desirable that both men and women teach in high schools. Adolescents should have contacts with both, and there is no evidence that the women in our schools are effeminizing them; but there should not be such a disportionate number of women. More men are needed. In 1870, of the total number of all teachers, both elementary and secondary, 41 per cent were men; in 1934, the percentage of men had decreased to 19.1.[1]

This decline in the number of men is due to the influx into the profession of women whose services could be secured at a substantially lower cost, and also because men were attracted to other professions and into business.

Academic Training.—Again, contrasting secondary-school teachers of the United States with those of Europe, American teachers show far less training than the latter. Those of Germany, France, and most of those of England, have training equivalent to the master's degree, and many the degree of doctor of philosophy. Although the majority of secondary-school teachers in the United States have four years of training beyond the high school, many, especially in the junior high schools, have not finished college.

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[1] Willard S. Elsbree, "The American Teacher," p. 554, American Book Company, New York, 1939.

The preparation of secondary teachers of Germany is rigid and thorough with respect to scholarship. Before a teacher is appointed to a position he must have studied four years of advanced work in a university, admission to which is based on the completion of a secondary school of eight years. At various places along the line he must have passed competitive examinations, and again after finishing the university, he must pass a comprehensive oral and written examination on subject matter and methods. This is followed by at least two years in professional training and probationary teaching in an approved secondary school. Candidates who have passed all examinations and completed all the required training are placed on reserve and receive a small salary until given a permanent position They have a high social status in the community, are well paid, and receive a pension on retiring. Nearly all teachers in boys' schools are men and about one-fourth of those in girls' schools are men.[1]

Since 1936, candidates are trained in special training institutions for at least one additional year in the principles of politico-national, racial-military aims. All candidates must serve also in labor camps and pass all examinations in physical, racial, and political fitness.[2]

Secondary-school teachers of France who are intending to teach in schools for boys must attend school two years beyond graduation from the university which gives them a training comparable to those of Germany. In France, more emphasis is placed on academic than on professional training.

In England the social status of secondary-school teachers is not so high as in Germany and France. The academic training is likewise not so high although university training is essential. About half the teachers are women, many of whom were former elementary-school teachers.

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[1] Stephen P. Cabot, Secondary Education in Germany, France, England, and Denmark, *Harvard Bulletins in Education* 15, 1930, Harvard University Press, Cambridge, Mass., p 20.

[2] M. K. Archer, A Comparison of Educational Ideals in Germany and the United States, *The School Review*, **45** (May, 1937), p. 379.

There are many reasons why the teachers of France and Germany are more highly trained than those of the United States. The proportion of youth attending secondary schools in the United States is high compared with Europe; therefore, fewer teachers are needed and a more careful selection can be made and higher standards maintained. The high-school population increased so rapidly in the United States from 1880 to 1930 that it was difficult to train teachers rapidly enough to fill the positions. The corresponding growth in the number of teachers is shown in Fig. 38. The fact that American standards for certification are low is not a cause of poorly prepared teachers, but they are placed at a level where enough teachers will qualify. As salaries increase, attracting more persons to the profession, and as teacher-training institutions are established to meet the demands, standards can be elevated. The various states are determining the standards of academic and professional training through the requirements for certificates. A review of these requirements reveals that the majority of the states require four years of training beyond high school for a senior-high-school certificate, although there are still 14 states requiring only two years for the junior-high-school certificates. In 1931, the National Survey of the Education of Teachers showed that 40 per cent of junior-high-school teachers do not have four years of college work.[1] With the states assuming full responsibility for certificates, and requirements elevated, it will not be long until all secondary-school teachers have college degrees, or training beyond.

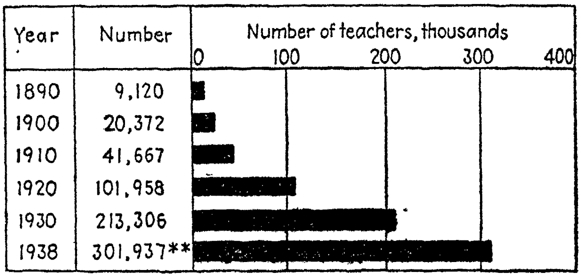

FIG. 38.—Growth in the number of teachers in the secondary schools of the United States from 1890 to 1938. This figure includes administrative and supervisory officers, teachers, and staff members. There were 274,713 teaching positions exclusive of administration and supervision. Of the total figure, 129,490 were men and 172,447 were women. For classroom teaching positions· men, 112,440; women, 162,273. **(*Biennial Survey of Education*, 1937–38, *U.S. Office of Education Bulletin* 2, 1940, *Chap. V*, *p.* 80.)

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[1] National Survey of the Education of Teachers, *U.S. Office of Education Bulletin* 10, 1933, p. 42.

Teachers of the Latin Grammar School.—It is interesting to compare the secondary-school teachers of today with those of the Latin grammar school. The modern tendency is to select teachers who are sociable, friendly, and "human," for a teacher must work with people, and teach as much by example as by precept. Contrasted with this type, the teachers of the Latin grammar school were dignified, strict taskmasters. Because of the close association of the school and the Church, many of the teachers were also ministers. Their most important qualification was soundness of doctrine, and for this reason schoolmasters usually had to be approved by the ministers. Scholastic requirements consisted of the ability to teach "the tongues." Their salaries varied from 20 to 60 pounds a year before 1700 and rose to 80 to 100 pounds after that date. Usually the teachers were provided with a house and garden, and received part of their salary in kind. "Boarding around" was often a form of part payment.[1]

The teachers were usually so partial to the classics that they were reluctant to teach other subjects. It became necessary, however, for them to do so. If a town were so small it could not afford both an elementary school and a Latin grammar school, all the pupils attended one school, and while some would receive instruction in Latin, the others were taught by giving the teachers special fees for the extra work.

Certification.—The majority of the states issue a secondary-school certificate which is valid in all high-school grades, while some issue two separate certificates, one known as a junior-high-school certificate valid in grades 7 and 8, and a senior-high-school certificate valid in grades 9 through 12. State certificates state the specific subjects which one may teach. "Blanket" certificates covering the entire curriculum are not granted. Training beyond high school necessary to qualify for a junior-high-school certificate is three years in 9 states, two years in 14 states, while the others require four years, which is the most general requirement for the senior-high-school certificate.

Three states, Arizona, California, Washington, and the District of Columbia require five years of preparation beyond the high school for the senior-high-school certificate. Three states, Alabama, Georgia, and Oklahoma, require only three years, and Mississippi, Nebraska, and Texas have not raised their requirements beyond two years of post-high-school training.

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[1] An interesting account of "boarding around" may be found in Willard S. Elsbree, "The American Teacher," American Book Company, New York, 1939, 566 pp.

The usual requirement in the number of semester hours of professional training is 18. With the exception of 14 states, practice teaching is required for a certificate, the number of semester hours ranging from two to six.[1]

TABLE 57

AVERAGE GROSS ANNUAL EARNINGS REPORTED BY GRADUATES OF LAND-GRANT COLLEGES*

Occupation	Average Salary
Medicine and surgery	$7,792
Law	5,754
Banking and finance	5,704
Commerce and business	5,366
Insurance	4,776
Dentists	4,149
Clergymen	2,785
Home-demonstration agents	2,082
College instructors (men)	3,795
College instructors (women)	2,287
Superintendents of schools (men)	3,599
Superintendents of schools (women)	2,213
High-school teachers (men)	2,459
High-school teachers (women)	1,722
Elementary-school teachers (women)	1,725

* From Survey of Land-Grant Colleges and Universities, *U.S. Office of Education Bulletin* 9, 1930, pp. 383–404.

Salaries.—When compared with salaries of other professional groups, teachers are at the bottom of the list. In a comparison of the gross earnings of graduates of land-grant colleges and universities representing 17 occupational groups, the average salary of those engaged in teaching ranked lower than all others save clergymen and home-demonstration agents (see Table 57). The public has either not been able financially to pay teachers a salary compatible with their required training and service, or it has not been convinced that they are worthy of a greater monetary reward. Certainly, the economic status of secondary-school teachers is fundamental if teaching is to be elevated to the status of a profession. Communities dictate the standards of living; state laws, the standards for certification; but at the same time teachers are not paid enough to maintain the standards set. Until teachers' salaries are elevated, the profession cannot hope to attract and hold the highest type of personnel or to increase the period of training for a certificate beyond a bare minimum.

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[1] Statutory Status of Six Professions, *Research Bulletin of the National Education Association*, **16**, 4 (September, 1938), p. 209.

In Fig. 39 is shown the median salaries of junior-high-school teachers in cities ranging in population from 2,500 to over 100,000.

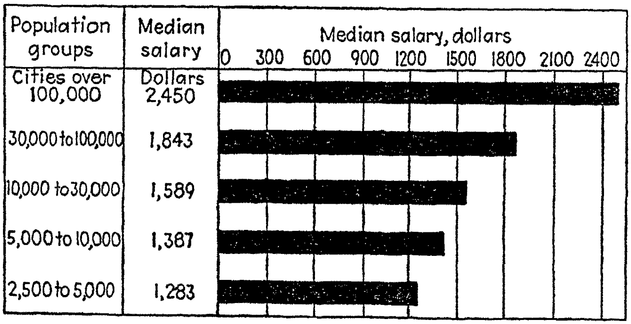

FIG 39.—Median salaries paid junior high-school teachers in cities, 1938–39. [*Research Bulletin of the National Education Association*, 17 (*March*, 1939), *pp.* 76–83]

In Fig. 40 are shown similar data for senior-high-school teachers. Median salaries give a truer picture of the situation than arithmetic-mean salaries, since the latter is effected by a few extremely high salaries, and is usually higher than the median salary.

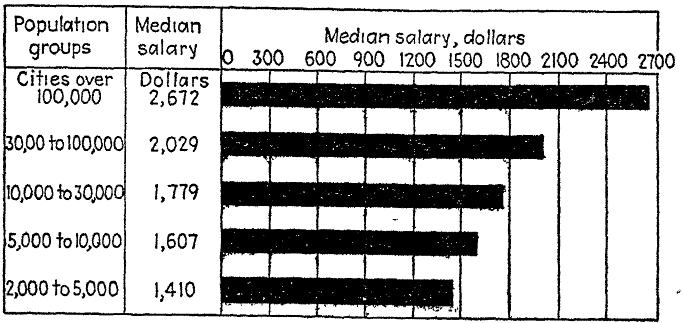

FIG. 40.—Median salaries paid senior high-school teachers in cities, 1938–39. [*Research Bulletin of the National Education Association*, 17 (*March*, 1939), *pp.* 76–83.]

Due to the wide variation in the mean or median salary paid rural high-school teachers in various states, a few typical salaries are presented rather than average figures. In Table 58 are presented salaries of rural high-school teachers in 13 states. In all cases in which the salary for men and women is given separately, the former is higher. The range for women is from $533 per year in Arkansas to $1,344 in Connecticut. In Maryland, teachers' salaries are equalized throughout the various counties, making no difference between men and women or between rural and urban teachers.

TABLE 58

SALARIES PAID RURAL HIGH-SCHOOL TEACHERS IN 13 STATES*

State	Year	Salary		
		Men	Women	Both
Alabama	1934–35	...	...	$823 m
Arkansas	1935–36	$694 m	$533 m	
Connecticut	1936–37	1,456 m	1,344 m	
Delaware	1936–37	...	...	1,445 md
Georgia	1935–36	...	...	1,009 m
Kansas	1934–35	1,011 m	863 m	
Louisiana	1935–36	...	...	1,127 md
Maryland	1936–37	...	...	1,474 m
Missouri	1935–36	948 m	775 m	
Pennsylvania	1935–36	...	...	1,215 md
Tennessee	1935–36	1,014 m	825 m	
Vermont	1936–37	...	...	1,286 m
Virginia	1935–36	...	...	818 m
Wisconsin	1936–37	1,323 md	1,071 md	

* From *Research Bulletin of the National Education Association*, 17 (March, 1939), pp. 91–94.

m = mean md = median

Rural is defined as communities with a population of 2,500 or less. In Maryland, cities are included since all salaries are equalized throughout the county.

A comparison of elementary- and secondary-school teachers' salaries with those of administrative officers shows the economic status of teachers increases from the elementary school, through the secondary school, to the principalship and superintendency (Table 59).

Salary Trends.—Shortly after the depression of 1930, teachers' salaries began declining and continued to do so until 1934 (Fig. 41). Since that time there was a gradual increase to 1938–39. This, of course, reveals the situation only since 1930. Since 1890 there has been a gradual increase in teachers' salaries. From 1890 to 1937 the percentage increase was 418. At the same time salaries of other groups and the cost of living have increased. Teachers' salaries have advanced more rapidly than those of most groups of workers.[1]

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[1] Elsbree, *op. cit.*, pp. 434–436.

TABLE 59

SALARIES OF ELEMENTARY- AND HIGH-SCHOOL TEACHERS, SUPERINTENDENTS, AND PRINCIPALS IN CITIES WITH POPULATIONS OF 2,500 AND OVER*

Position	Average Median Salary
Elementary teachers	$1,396 60
Junior-high-school teachers	1,603.80
Senior-high-school teachers	1,793.80
Supervising elementary-school principals	2,389 20
Junior-high-school principals	2,585 20
Senior-high-school principals	3,175.20
Superintendents	4,987 40

* Data secured from *Research Bulletin of the National Education Association*, **15** (March, 1937), pp. 68–73. See also **17** (March, 1939), pp. 76–83.

Single-salary Schedules.—As shown in a previous section, salaries of teachers are not equal for the same or comparable services in the same school. Women are paid less than men even when factors of training, experience, and position are held constant. Elementary teachers are paid less than secondary-school teachers. Likewise, rural teachers are paid less than urban teachers which makes the urban positions more attractive.

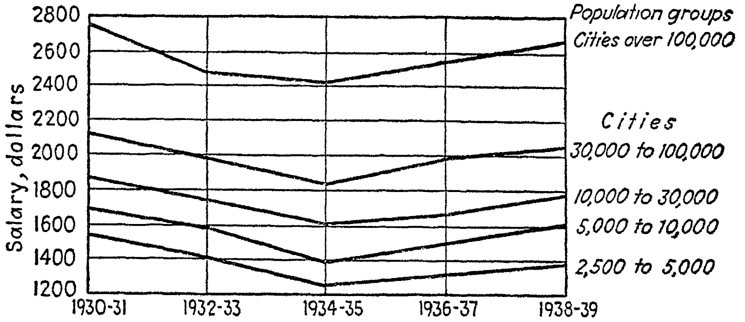

FIG. 41.—Trends in high-school teachers' salaries, 1930–31 to 1938–39 [*Research Bulletin of the National Education Association*, **17** (*March*, 1939), *p.* 75.]

There is little or no justification for some of these differences, but recent trends in making salary schedules show that differences are made. The main points which should be considered in making salary schedules are amount of original training, a recognition of additional training, recognition of efficiency or individual merit, years of experience or continued service, and cost of living.

A survey made in 1930–31 by the National Education Association[1] of the practices in salary schedules, revealed that of 1,162 school systems reporting on their salary schedules in effect, 17 per cent were of the preparation type and 83 per cent of the position type. The position type differentiates between elementary, junior-high-school, and senior-high-school teachers. They recognize preparation indirectly because the initial preparation for these positions varies. The preparation type bases salaries on the years of professional preparation, the typical one recognizing four levels of training beyond high school: two years, three years, four years (bachelor's degree), and five years (master's degree).[1] The schedules usually give beginning teachers a minimum salary and provide for increments on the basis of additional training, experience, and merit, to a maximum. Of the school systems studied by the National Education Association, 45.2 per cent paid equal salaries to both men and women. The practice varied according to the size of the cities reporting. For cities over 100,000, the sexes were paid an equal amount for the same service in 84.5 per cent of the cases, while in those between 2,500 and 5,000, the percentage was only 40.0.[2]

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[1] The Preparation of Teachers' Salary Schedules, *Research Bulletin of the National Education Association*, **14**, 2 (March, 1936), p. 56.

One of the reasons for making a sex difference in salary schedules is that many educators believe teaching is not attracting enough superior men, and that if the salary for them is higher more will become teachers. The difference is not established on a basis of sound principles, but on what one has to pay for service rather than what it is worth.[3]

There is a tendency for those states organized on the county-unit plan to equalize salaries within the county or the state, basing the salary on training and experience rather than the division of the school system or location of the school. For example, in Maryland they are equalized in the county.[4] This does not consider the cost of living which varies from rural to urban areas.

Tenure and Teacher Turnover.—Teachers cannot hope to be highly efficient and render their best services to the school and the community if they change their positions too frequently. Likewise the school suffers in efficiency when too many teachers are new to their positions each year. It takes some time for a teacher to get well acquainted with his work, the pupils, and the entire school. If he changes positions soon, he must again learn to adjust himself to a new situation. Long-time planning in curriculum construction, improved methods of teaching, and an efficient program are not possible when turnover is great.

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[1] *Ibid.*, p. 57.

[2] *Ibid.*, p. 76.

[3] See Leo M. Chamberlain, "The Teacher and School Organization," Prentice-Hall, Inc , New York, 1936, pp. 245–247 for a further discussion of this topic.

[4] *Research Bulletin of the National Education Association*, **17**, 2 (March, 1939), pp. 92–94.

There are practically no accurate figures on teacher turnover on the secondary level for the country as a whole. From what data there are available, the following conclusions may be drawn:

1. Teacher turnover is greater than it should be. Teaching has rightfully been called a "suitcase" profession.
2. Turnover is greater in rural than in urban centers, where salaries are lowest, and where there are no good tenure laws.
3. The gross turnover has been estimated to be somewhere between 25 and 50 per cent as measured by the number of new teachers each year, and the percentage of teachers new to their positions. The range is from 2 or 3 per cent in some cities to 100 per cent in some years in some rural schools. The writer is familiar with a rural high school of three teachers which had a 200 per cent turnover in one year.

Some of the chief causes of teacher turnover are:

1. *Lack of Adequate Tenure Laws.*—The annual contract fosters an increased turnover for often school boards have failed to reemploy teachers merely to satisfy their own whims, or discharge them merely to exercise their authority.

2. *Withdrawal from the Profession.*—The main reasons for this are death, illness, retirement, marriage, or a desire to enter other types of work.

3. *Promotions.*—To a great extent beginning teachers are forced to secure their first positions in rural schools, and after gaining a few years' experience transfer to urban schools.

4. *Voluntary Change of Position.*—Many teachers desire to change positions every few years, either because of a roving disposition or dissatisfaction with their present situation.

Many of the larger cities of the United States have tenure laws giving permanent tenure after a probationary period, while this provision is state-wide in four states (Table 60). Twenty states have no legislation concerning the duration of contracts, and seven provide for the annual election plan. In Delaware, Minnesota, Montana, Nevada, West Virginia, and in all except first-class districts of Pennsylvania the state laws provide for a continuing contract. This means that teachers may hold their positions without the necessity of annual applications, but does not assure permanent tenure. The school board must give notice by a certain date if a teacher's services are to be discontinued.[1]

TABLE 60
STATE LAWS GOVERNING THE DURATION OF TEACHERS' CONTRACTS*

Type of provision	Number of states	Names of states
Uniform provisions:		
1. No legislation . . .	20	Alabama, Arkansas, Connecticut, Florida, Georgia, Idaho, Kansas, Maine, Michigan, New Hampshire, New Mexico, North Carolina, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Vermont, Virginia, Wyoming
2. Annual election plan. .	7	Arizona, Iowa, Kentucky, Missouri, Oklahoma, Washington, West Virginia
3. Permanent tenure after probationary period	4	Louisiana, Maryland, Massachusetts, New Jersey
4. Continuing contract. .	3†	Delaware, Montana, Nevada
5. Contracts permitted for more than one year...	1	Ohio
Varying provisions....	13	Colorado, Indiana, Minnesota, New York, Oregon, Wisconsin, Mississippi, Nebraska, North Dakota, Texas, California, Illinois, Pennsylvania

* A Handbook on Teacher Tenure, *Research Bulletin of the National Education Association*, **14**, 4 (September, 1936), p. 172.
† West Virginia now has continuing contract.

The report of the National Education Association Committee on Tenure listed the following reasons for longer tenure provisions:

1. To prevent political control of schools and teaching positions.
2. To permit and encourage teachers to devote themselves to the practice of their profession without fear or favor.
3. To encourage competent and public-spirited teachers to remain in the schools.
4. To discourage school management based on fear and intimidation.

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[1] A Handbook on Teacher Tenure, *Research Bulletin of the National Education Association*, **14**, 4 (September, 1936), pp. 172–174.

5. To prevent the discharge of teachers for political, religious, personal, or other unjust reasons.
6. To protect teachers in their efforts to secure well-financed and adequate education for the children in their charge.[1]

The chief disadvantage of permanent tenure is that of getting a poor teacher and being unable to discharge her. The only methods of removing this objection are to expand permanent tenure only after a probationary period, exercise care and judgment in employing new teachers, and require training in service to insure professional advancement.

TEACHING AS A PROFESSION

In America, teaching has emerged from a part-time job to a profession. From Colonial times to the twentieth century the majority of teachers had to supplement their incomes by other work. Low salaries was only one of the drawbacks. Teachers worked only a few months out of each year, there were no state certification laws, no legal status, no tenure, little professional literature and few organizations. The first state normal school was established by Horace Mann at Lexington, Mass., in 1839. Before this, and for some time afterwards, the academies trained elementary-school teachers, while secondary-school teachers received their academic training in colleges and universities. The majority of the latter had no professional training until the twentieth century when colleges and universities established teacher-training departments, which emerged in many cases into separate colleges offering four-year courses preparing persons for both elementary and secondary-school work.

Teaching has both the elements of a profession and of a skilled trade. The factors which characterize it as a profession are as follows:

1. *Legal Status.*—Teachers are now certificated by the states, and all now work under contracts which have been upheld by law.
2. *Professional Organizations.*—Although all teachers are not members, the chief organizations are the National Education Association and its affiliated organizations and the state educational associations.
3. *Professional Publications.*—The number of professional publications in periodical and book form is legion. There are official publications for every type of educational work.

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[1] Donald Du Shane, "Report of Committee on Tenure," *Proceedings of the National Education Association,* 73 (1935), pp. 221–224.

4. *Code of Ethics.*—The National Education Association has adopted a code of ethics, and the various state organizations have either adopted the same one or have prepared similar ones.

5. *Professional Training.*—Separate teacher-training institutions, colleges of education, and departments of education are found in all states of the United States. One may secure the bachelor's, master's, and doctor's degree in almost any phase of education, or he may pursue a liberal-arts course with a major in education.

6. *High Standards of Training.*—The amount of training required in a given field is one of the chief criteria for determining its professional status. If one considers secondary teachers, and those in higher institutions, the period of required training gives it a high rank. Elementary teachers do not rank so high.

7. *Social Standing.*—With few exceptions, teachers enjoy a social position in the community on a par with that of other professional and business groups.

8. Recognition by the Academy of Scientists.

The factors which lower the professional status of teaching are:

1. Lower salaries than other professions.
2. Shorter period of training than other professions.
3. Lack of professional solidarity.
4. Low period of tenure.
5. High degree of turnover.
6. The use of teaching by many as a stepping-stone to other professions.
7. Teachers engaging in unethical practices as breaking contracts, underbidding, and abusing confidences concerning pupils.

Opportunity for Advancement.—Many students of education believe there is not so much opportunity for professional advancement in education as in other fields of work merely because they are not aware of the various types of activities in education. The best known and most frequent types of positions ranked in order of professional and economic status are: elementary-school teacher, junior-high-school teacher, senior-high-school teacher, elementary principal, high-school principal, and supervisors and superintendents. These represent the types of positions occupied by the majority of teachers, but they represent only a small number of the types of positions available.

A classification made by Miss Marjorie Rankin[1] revealed that there are 239 teaching opportunities other than those of classroom teachers. She listed 35 types of subject-matter teachers teaching 364 different subjects on the secondary level. Some of the types of positions mentioned were publicity agents, purchasing agents, architects, director of educational research, school psychologists, statisticians, nurses, coaches, dentists, librarians, visiting teachers, various directors of courses of study, and testing, health, and special supervisors.

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[1] Marjorie Rankin, Trends in Educational Occupations, *Teachers College Contributions to Education* 412, Teachers College, Columbia University, 1930, pp. 8–21.

Many teachers leave the profession before they have had an opportunity to learn of its opportunities or to get an increase in salary. Beginning salaries are not so large in any profession as they are after some years of service. The administrative positions pay higher salaries and men have a greater opportunity to secure them; but many elementary-school principals are women, and they have an equal chance with men in special supervisory work. Any student who wishes to follow educational work as a career will find ample opportunity for advancement.

Teacher Supply and Demand.—In most states there has been a surplus of certificated teachers; in a few typically rural states, like Arkansas, the demand is greater than the supply. It is natural that positions are more difficult to secure, and the number of available teachers is greater in those states paying higher salaries.

During the period of rapid growth of the secondary school (1890 to 1930) it was difficult to regulate the supply and demand. Population shifts, consolidation, and transportation further accentuated the problem. It is predicted that when the secondary school and the general population become more stable, teacher-training institutions will be able to determine more accurately the number of new teachers needed each year, and by selective admission requirements regulate the number trained.

A survey reported by Foster of the students in teacher-training institutions, and those in schools of arts and science specializing in education, revealed that in 1936 of a total collegiate enrollment of 1,208,227 students, one-fourth of them were enrolled in curriculums preparatory to teaching.[1] Of this number one-third were men, as contrasted with one-fourth in 1936. This would indicate an increase in the number of men at least intending to enter the profession.

A distribution of graduates with specialization in education follows:

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[1] Emery M. Foster, Supply of Newly Trained Teachers, *School Life*, **25** (October, 1939), p. 28.

Teacher preparation	1933–34	1935–36
Degree graduates from schools of arts and sciences:		
Bachelor's	3,098	3,966
Master's	610	883
Doctor's	109	112
Total	3,817	4,961
Degree graduates from professional schools of education and teachers' colleges:		
Bachelor's.	22,690	28,393
Master's	5,370	5,638
Doctor's	167	193
Total	28,227	34,224
Nondegree graduates in teacher-preparing curriculums:		
4-year	71	440
3-year	5,220	3,729
2-year	13,999	14,755
1-year	3,024	2,202
Total	22,314	21,126
Grand total	53,358	60,311

Although there was an increase from 1934 to 1936 in the number of teachers graduating, from a study of all factors involved Foster does not believe that the supply of new teachers being made available by the colleges is excessive.[1]

TEACHER FREEDOM

Next to ministers, the general public has set higher standards of conduct for teachers than any professional group or those engaged in public service. Evidently, parents want their children to associate during school hours with persons whose personal conduct is elevated above the standards common to the homes from which the children come.[2] Although the amount of freedom permitted teachers in their private lives has been greatly increased, there is still a great tendency for communities to regulate and control the conduct of teachers. What teachers do in the community is a greater factor in unseating them than what they do in the classroom.

A few typical examples will illustrate the attitude of the public toward teachers:

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[1] *Ibid.*

[2] Elsbree, *op. cit.*, p. 535.

1. *Personal Habits and Amusements.*[1]—Before the First World War many teachers of the Middle West and South could not attend the theater. This objection has almost entirely been removed. Dancing and playing cards are still forbidden in many places, and gambling, drinking, and swearing are not possible for most teachers. In many places smoking is not permitted, but it is being tolerated even with women teachers in some cities. In smaller communities, women may not smoke even when away from the school.[2]

2. *Immoral Conduct.*—Immoral conduct, although it is not rigidly defined, is always legitimate grounds for dismissing teachers and is upheld by courts in all tenure laws. Where sex morality is involved, gossip is usually a sufficient cause for dismissal.[3]

3. *Married Women.*—In general, when cases involving the dismissal of a teacher solely on the grounds that she was married, "courts have sustained the philosophy of modern education which tends toward liberation of personality."[4] In other words, they have upheld the teachers' right to marry. Nevertheless, there is much discrimination against married women. A survey of 1,500 city school systems with populations of 2,500 or over revealed that 76.6 per cent did not employ married women as new teachers, and 61.7 per cent required teachers to resign at once or at the end of the school year if they married in service.[5]

Studies made to determine the relative merits of married and unmarried teachers are not conclusive. Ratings made by supervising principals of women teachers before and after marriage were somewhat higher after marriage;[6] but, when compared on the number of days of absence due to illness and absence due to factors other than illness, the married teachers missed school more than single teachers. Carrothers showed that more unmarried teachers continued their work in higher institutions than married teachers.[7]

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[1] See Howard K. Beale, "Are American Teachers Free?" pp. 374–375, Charles Scribner's Sons, New York, 1936.

[2] *Ibid.*, p. 376.

[3] *Ibid*, p. 382.

[4] Ward W. Keesecker, The Legal Status of Married Women Teachers, *U.S. Office of Education Pamphlet* 47, 1934, p. 2.

[5] *Research Bulletin of the National Education Association*, **10**, 1 (January, 1932), p. 19.

[6] E. E. Lewis, "Personnel Problems of the Teaching Staff," D. Appleton-Century Company, Inc., New York, 1925, pp. 179–180.

[7] George E. Carrothers, The Physical Efficiency of Teachers, *Teachers College Contributions to Education* 155, Teachers College, Columbia University, 1924, pp. 34, 76.

This problem must be decided on grounds other than demonstrated differences between the two groups. The arguments usually advanced against hiring married teachers are:

1. A double salary goes in one home, while a single girl is deprived of a position.
2. Since one teaches by example as well as words, American ideals of home life and a woman's place in it are being lowered in the eyes of pupils by the example set by married teachers.
3. If a woman desires to spend her life in professional service, she should not get married.
4. If a married teacher has children, her place is at home with them.
5. If a married woman's children are in school, she still has the responsibility of her home to divide her attention. Much of a teacher's work must be done at home, and household duties will interfere.

Some claim married women are better teachers, because, since they have children of their own, they have a greater knowledge of child psychology. The weakness of this argument is found in the fact that one does not receive a knowledge of child psychology at the time of the birth of her child. Such a knowledge is acquired through association, observation, and study. Those pursuing teacher-training curriculums have studied child psychology, and have plenty of opportunity to make observations. There is quite a difference between the techniques of classroom management and control and teaching methods, and child care in a home.

Discrimination against married teachers is causing many men to leave the teaching field. In many states salaries are so low a man cannot support a family unless he lives on a very low standard. Unless he deprives himself the right to live a normal married life, he must leave the teaching field and secure employment paying enough to permit him to marry and support his wife. If his wife is permitted to teach also, the double salary will permit them to maintain a home. Until the time when teachers are paid a salary high enough for them to live a normal life on a standard congruous with the position and training, discrimination against married women should cease.

4. *Social Life.*—Although it is not a universal practice, there are many communities in which regulations are placed on the teacher's social life. The persons with whom she associates, the friends she makes, and the persons with whom she "keeps company," "makes dates," or "goes with," are regulated either by popular opinion or are explicit in the contract itself. In small towns, especially, the pa-

trons are concerned with matters of dress, time of retiring, and the matter of participation in community activities. In many places they are expected to take an active part in church work, and of course contribute to all community enterprises. Many contracts even include provisions concerning the number of week ends the teacher may spend out of town, while school-board members often dictate where teachers may board.[1]

5. *Political Activity.*—Teachers must teach citizenship, but they are usually not permitted to take an active part in politics by campaigning for a political party or even be outspoken in their beliefs.

6. *Labor Organizations.*—Labor activity and attempts to join labor unions in order to protect themselves are frowned upon.[2]

7. *Academic Freedom.*—Many attempts at curbing academic freedom in the classroom grew out of ideas about religion. Many parents who believed there was a conflict between science and religion sought legislation to prevent certain principles or views from being taught. The states of Florida, Mississippi, Arkansas, Tennessee, North Carolina, and Louisiana have laws or resolutions designed to prohibit or discourage the teaching of evolution, or to teach anything contrary to the Bible.[3]

8. *Loyalty Oaths.*—Legislation requiring that teachers take oaths of loyalty has been enacted in the States of Arizona, Georgia, Massachusetts, Michigan, New Jersey, Vermont, and others. These oaths are usually regarded as an infringement upon academic freedom and constitute class legislation. If any teacher is inclined to teach any principles contrary to the ideals of democracy, it is doubtful if loyalty oaths would prevent it.

The profession of teaching is enjoying more personal freedom now than at any time in its history. Gradually these restrictions are being removed and teachers are being permitted to lead normal lives. The legislature of South Carolina gave every teacher freedom to choose her place of residence and boarding and forbade trustees interfering in this right. Kentucky, Nevada, and West Virginia have passed legislation making it unlawful for school boards to bestow patronage on friends or relatives in employing teachers, and Pennsylvania forbids teachers to bestow gifts upon board members.[4]

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[1] Beale, *op. cit.*, pp. 388–390.

[2] *Ibid.*, p. 396.

[3] *Ibid.*, pp. 228–229.

[4] A Review of Educational Legislation, 1935 and 1936, Biennial Survey of Education, 1934–36, *U.S. Office of Education Bulletin* 2, 1937, pp. 23–24.

There is now legislation in approximately half the states concerning retirement systems.[1] Until petty interference in the private lives of teachers is removed, many persons, especially men, will not be attracted to education. There is a difference between maintaining high standards for teachers and controlling their conduct in the community. It is the author's opinion that teachers as a whole have demonstrated their ability to control their own conducts in such a manner that there will be no reflection on them personally, or in the school.

PROFESSIONAL GROWTH IN SERVICE

There are two periods when teachers are trained: preservice training in colleges and universities and in-service training, or what is often referred to as "keeping up." Too often the latter is neglected. When a degree is secured one is inclined to undergo a rest period. Education is one of the most rapidly growing and changing professions and unless a teacher makes a deliberate and constant effort to keep abreast of the times, she will soon find herself dead professionally. Furthermore, professional advancement is not likely to proceed more rapidly than the degree to which one improves in service.

The usual methods employed by teachers for in-service training and improvement are:

1. *Professional Reading.*—If the school does not have a professional library, the teacher should subscribe to a few professional magazines, purchase a few books each year, and exchange with, or borrow from, fellow teachers.

2. *Attending Professional Meetings.*—In nearly all parts of the United States, teachers are organizing themselves into professional study groups. Often, outside speakers are invited to address these groups, or current topics and problems are discussed.

3. *Home-study Courses.*—Although it is better to pursue a course of study in residence, if this is not possible one should take advantage of the correspondence courses offered by a large number of teacher-training schools.

4. *Summer-school Attendance.*—Summer-school enrollments are increasing, mainly by teachers pursuing courses for either the bachelor's or master's degree. The increased requirements, especially for principals and superintendents of accredited high schools, is partly responsible for this increase. Requirements for certificates

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[1] *Ibid.*, p. 26.

are increasing, and the wise teacher will not postpone preparing herself for the increasing requirements.

5. *Travel.*—Tours for teachers during vacations are becoming popular. Thousands travel in small groups by car during the summer. Many prefer to attend summer school at distantly located universities in order that study and travel may be combined.

6. *Observation and Supervision.*—Teachers should never miss an opportunity to observe the work of superior teachers and try to emulate their techniques. One of the duties of principals and superintendents is that of improving teachers in service, and it is ethical for teachers to request help from them. Likewise special supervisors are often available for helping teachers improve themselves.

The Teacher and the Administration of the School.—Unless a teacher is so unfortunate as to have an autocratic or dogmatic principal or superintendent, she will find that most schools are democratic in their administration. She will be charged with responsibility and permitted to exercise her own ingenuity and initiative in performing her duties. Sometimes teachers take advantage of a democratic situation and evade certain responsibilities. The following are a few of the general duties and responsibilities of typical secondary-school teachers. These, of course, will vary in local situations.

1. *A Teacher's First Responsibility Is to Teach the Classes Assigned to Her.*—The number assigned to a teacher will vary from four to eight a day. Beginning teachers, and those in small rural schools, usually have the largest teaching loads in terms of the number of classes daily and the number of preparations. Class sizes are likely to be smaller than in urban centers.

2. *Records and Reports.*—Basic records for a classroom teacher are those pertaining to her immediate classes, such as the enrollment, attendance, marks, and report cards. Others may be assigned to her.

3. *Extra Activities.*—Teachers may be asked to sponsor school clubs, coach athletic or literary teams and dramatics, take charge of study halls or the library, serve on committees, help in curriculum construction and textbook selection, take an active part in parent-teacher associations, and plan and direct assembly programs.

4. *Teachers' Meetings.*—Teachers meetings may be periodical or on call, and usually occur once a month. Teachers are always expected to attend and often to take part by giving committee reports, book reviews, or discussions of some topic.

5. *Relationships with Parents.*—Parents are usually interested in the schoolwork of their children and expect teachers to confer with them from time to time concerning their progress. Many principals require teachers to be in their classrooms an hour before parent-teacher meetings are scheduled, to confer with patrons, or to visit parents in their homes at least once during the school year.

6. *Guidance.*—No school can be efficient unless there is a high degree of cooperation between the administration and the staff. A lack of cooperation will be detected by the pupils and parents and usually ends in the dismissal of one or more members of the staff.

PROFESSIONAL ETHICS

In 1929 the National Education Association approved and recommended a professional code of ethics. A few exerpts from the code will reveal the high standards teachers have set for themselves.[1]

> In order that the aims of education may be realized more fully, that the welfare of the teaching profession may be promoted, that teachers may know what is considered proper procedure and may bring to their professional relations high standards of conduct, the National Education Association has developed this code of ethics.
>
> *Article I—Relation with Pupils and to the Community*
>
> Sec. 1. The schoolroom is not the proper theatre for religious, political, or personal propaganda. The teacher should exercise his full right as a citizen but he should avoid controversies which may tend to decrease his value as a teacher.
>
> Sec. 2. The teacher should not impair his usefulness as an educational leader by allowing himself to be drawn into partisan politics or to be over-influenced by considerations of personal interests.
>
> Sec. 3. In instructional, administrative, and other relations with pupils, the teacher should be impartial, just, and professional. The teacher should consider the different interests, aptitudes, abilities, and social environment of pupils and endeavor to make the school meet the pupil's needs.
>
> Sec. 4. The professional relations of the teacher with his pupils demand the same scrupulous guarding of confidential and official information as is observed by members of other long established professions.
>
> Sec. 5. The teacher should seek to establish friendly and intelligent coöperation between the home and the school.
>
> Sec. 6. The teacher should carefully refrain from marking pupils higher than their work justifies. The giving of high marks for the sake of

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[1] Sarah T. Muir, chairman of Committee on Ethics of the Profession, National Education Association, "The Ethics of the Teaching Profession," National Education Association, Washington, D.C., 1929, 26 pp.

winning the favor of pupils or patrons is to be strongly condemned as both unprofessional and unethical.

Article II—Relations to the Profession

Sec. 1. Members of the teaching profession should dignify their calling in every way. The teacher should encourage the ablest to enter it and discourage from entering those who are merely using the teaching profession as a stepping stone to some other vocation.

Sec. 2. The teacher should maintain his efficiency and teaching skill by study and by contact with local, state, and national educational organizations.

Sec. 3. A teacher's own life should show that education does ennoble.

Sec. 4. While not limiting his services by reason of small salary the teacher should insist upon a salary scale suitable to his place in society.

Sec. 5. The teacher should not exploit his school or himself by personally inspired press notices or advertisements, or by other unprofessional means, and should avoid innuendo and criticism particularly of successors or predecessors.

Sec. 6. The teacher should not apply for another position for the purpose of forcing an increase in salary in his present position. Correspondingly, school officials should not pursue a policy of refusing to give deserved salary increases to their employees until offers from other school systems have forced them to do so.

Sec. 7. The teacher should not act as an agent, or accept a commission, royalty, or other reward, for books or supplies in the selection or purchase of which he can influence or exercise the right of decision; nor should he accept a commission or other compensation for helping another teacher to secure a position.

Article III—Relations to Members of the Profession

Sec. 1. A teacher should avoid unfavorable criticism of other teachers except such as is formally presented to a school official in the interests of the school. It is also unprofessional to fail to report to duly constituted authority any matters which involve the best interests of the school.

Sec. 2. A teacher should not interfere between another teacher and a pupil in matters such as discipline or marking, nor express an adverse opinion regarding another teacher's work unless official duty makes such comment necessary.

Sec. 3. There should be cooperation between administrators and classroom teachers, founded upon sympathy for each other's point of view and recognition of the administrator's right to leadership and the teacher's right to self expression. Both teachers and administrators should observe professional courtesy by transacting official business with the properly designated person next in rank.

Sec. 4. The teacher should not apply for a specific position unless a vacancy exists. Unless the rules of the school otherwise prescribe, he should apply for a teaching position to the chief executive. He should not knowingly underbid a rival in order to secure a position; neither should he knowingly underbid a salary schedule.

Sec. 5. Qualifications should be the sole determining factor in appointment and promotion. School officials should encourage and carefully nurture the professional growth of worthy teachers by recommending promotion, either in their own school or in other schools. For school officials to fail to recommend a worthy teacher for another position because they do not desire to lose his services is unethical.

Sec. 6. Testimonials regarding a teacher should be frank, candid, and confidential.

Sec. 7. A contract, once signed, should be faithfully adhered to until it is dissolved by mutual consent. In case of emergency, the thoughtful consideration which business sanction demands should be given by both parties to the contract.

Sec. 8. Due notification should be given by school officials and teachers in case a change in position is to be made.

Summary.—Teaching is slowly emerging from a part-time occupation to the status of a profession. Those elements which retarded its growth are rapidly being eliminated or improved and those which tend to make teaching more professional are rapidly being improved. The period of training is being lengthened, requirements for certificates are being elevated, salaries are increasing, a more exact body of subject matter is being constructed through experimentation and observation, better tenure laws are being enacted, retirement systems are being adopted, and professional organizations are increasing their influence.

Teaching, together with the practice of law and medicine, and the ministry, is one of the oldest and most time-honored of the professions. It has only been in the last few decades that it fell from the position it should have maintained, mainly because of the rapid expansion of the school system which made it difficult to maintain high standards and at the same time fill all teaching positions. Now that the end of the period of rapid expansion is being reached, the profession can become more stable and elevate its own status.

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CHAPTER XVIII

THE SECONDARY SCHOOL AND COMMUNITY RELATIONSHIPS

The secondary school is an institution charged with a specific, definite responsibility, viz., to provide an environment in which youth is stimulated to grow toward definitely established goals. The school is a planned environment, and the activities in which pupils engage are carefully selected to produce certain outcomes, and the pupils are guided and directed in their participation in these activities. But the school is only one of the educational agencies, or only a part of the total environment of youth. All other agencies, such as the home, Church, and community, with their parental guidance, radio, cinema, press, and informal associations and contacts with others, are grouped under one heading called the "informal educational agencies," as contrasted with public and private schools known as "formal agencies."

Importance of Informal Educational Agencies.—Many things taught in secondary schools would have been learned incidentally anyhow, for just as there are formal and informal agencies there is primary and incidental learning. The school merely hastens the learning of many facts and skills. Primary learnings occur from conscious, intentional, and deliberate efforts toward established goals; incidental learning is not conscious or intentional and goals are not recognized or predetermined. Incidental learning proceeds at all times, in school and out. It is a secondary and parallel outcome of primary learning. Incidental learnings in a school environment are usually desirable because the same environment established for primary learning produces them, so they proceed toward the same objectives; but in the informal agencies, learning is likely to proceed in any direction, desirable or undesirable, for it lacks guidance.

The implications of these conditions call for a greater amount of planning, guiding, and directing of the informal agencies, which requires cooperation between them and the schools, for otherwise there will be conflicts. These conflicts will result in rendering ineffective the work of the school, and will cause learning to proceed along undesirable paths, with an ultimate result of misunderstandings between parents and the school, waste, and inefficiency. Most important of all, they produce youth who are not prepared to live harmoniously in society.

Evidences and Results of Conflicts between Formal and Informal Educational Agencies.—Evidences and results of conflicts between the formal and informal educational agencies are legion. A few outstanding examples may be mentioned. The schools have for years taught and should teach the physiological and psychological effects of narcotics on the human body, and in 48 states this is required.[1] Teachers have been confronted with the problems of how to teach these effects, and whether it will result in any good or not, because of conflicts in opinions, practices, and actual attempts of society to educate in the opposite direction. A few facts in this case and in similar cases are these:

1. The conduct of teachers is regulated by the community, prohibiting them from drinking, and often from smoking, because it sets a bad example for pupils who might emulate them, but the conduct of parents is not so strictly regulated. Their only restrictions are their own moral consciences, legislation, and social standards. As a result, pupils are taught in school not to drink and smoke, but see it practiced in their homes and in various places in the community. It is quite an anomaly that 24 states tax tobacco for school purposes, and many use revenue from the sale of alcohol to help support schools, and then require that the evil effects of these be taught.[2]
2. The textbooks of the school do not contain advertising materials, especially of tobacco and alcoholic beverages; but the "textbooks" of the home and community are full of them. The radio, newspapers, magazines, bulletin boards, and moving pictures advertise and encourage the consumption of narcotics.
3. The "romance" is on the side of narcotics. According to popular opinion, those who do not use narcotics are sour, solemn-faced, older persons who frown upon anyone who is enjoying himself; the consumers are pictured as leaders in society, heroes of science and sports, athletes, and vivacious youth.
4. Honesty, high ethical standards, and moral conduct are stressed in public schools; but in the community pupils observe dishonesty, unethical

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[1] Ward W. Keesecker and Franklin C. Sewall, Legal and Regulatory Provisions Affecting Secondary Education, *U.S. Office of Education Bulletin* 17, 1932, p. 77.

[2] Financing Public Education, *Research Bulletin of the National Education Association*, **15** (January, 1937), pp. 26–29.

practices, and gross immoral conduct which proceeds unpunished and uncondemned by society.

5. Pupils are taught that good citizens do not sell votes, that they exercise their voting privileges, and do not engage in graft; but in the community they see votes sold, a low percentage of votes cast, and graft in politics and government.

6. The schools teach moderation in eating, and in drinking tea, coffee, and soft drinks; parents permit pupils to overindulge. The school teaches worthy home membership, but one may find youth 10 to 12 years of age on the streets begging money to go to the movies at nine o'clock at night.

7. The school selects carefully the reading of youth; the community makes no attempt to select books, radio programs, magazines, or moving pictures for them.

8. There is also a conflict in aims. There is great need for educating the public in what the secondary school is for, its purposes, and functions. Evidence of this is observed in criticisms of the schools not training for many particular vocations, conflicts in vocational guidance, and the purposes of teaching many things in the curriculum.

It seems the school is for the purpose of teaching youth to avoid doing those things adults do.

Organized Efforts Necessary for Cooperation.—Private efforts of individuals to produce cooperation are not so effective as organized efforts. Individual attempts are likely to be in conflicting directions, and sporadic rather than continuous. United efforts through an organization result in continued and planned activities which have more weight and influence.

One organization, the National Congress of Parents and Teachers, aims primarily to produce greater cooperation between the home, community, and the school, while others, although organized for entirely different purposes, should work with the school in order to unite all educational agencies. Such organizations are the American Legion, Daughters of the American Revolution, Civic Clubs, American Association of University Women, the Lions, Rotary, and Kiwanis clubs, the Chamber of Commerce, and the Church. The school can also, by taking the initiative, secure greater cooperation through school publicity; but organized efforts are essential if it is adequate.

THE NATIONAL CONGRESS OF PARENTS AND TEACHERS

Origin.—The National Congress of Parents and Teachers is an outgrowth of a movement to secure greater cooperation between the home and the school. The first organized attempt resulted in the creation of the National Congress of Mothers in 1897 which was a forerunner of the present organization set up in 1924. Many factors gave impetus to this movement, the chief ones being:

1. Recognition of the lack of and need for greater cooperation between the home and the school.
2. The increased school enrollment.
3. Increased school costs.
4. The need of adult education.
5. The need of child welfare.
6. Changing aims, curriculum, and methods of the school.
7. A changed view concerning home study.
8. An increasing amount of democratic practices in school administration which calls for participation, cooperation, and group planning rather than dogmatic and autocratic methods.

Local Congress Parent-teacher Associations.—The functioning units of the national (and state) Congress of Parents and Teachers are known as local Congress units. There were, in 1939, 27,000 local branches enrolling 2,250,000 parents and teachers.[1] The national and state organizations assist the local units by providing basic procedures and methods, suggesting activities and projects, and organizing study groups. Unity of effort is secured in this manner, which might otherwise be sporadic, conflicting, and ineffective.

Objects of Parent-teacher Associations.—The general objectives or objects of the parent-teacher associations are common to all local units which assures that all will work toward the same goals. The objects, as stated in "The Parent-Teacher Manual" (1939), are:

1. To promote the welfare of children and youth in home, school, church, and community.
2. To raise the standards of home life.
3. To secure adequate laws for the care and protection of children and youth.
4. To bring into closer relation the home and the school that parents and teachers may cooperate intelligently in the training of the child.
5. To develop between educators and the general public such united efforts as will secure for every child the highest advantages in physical, mental, social, and spiritual education.[2]

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[1] This and the following information were secured from "The Parent-Teacher Manual," 1939; "The Parent-Teacher Guide Book," 1939; and "General Information," 1939, pamphlets published by the National Congress of Parents and Teachers, Washington, D.C.

[2] "The Parent Teacher Manual," *op. cit.*, p. 6.

The organization has a threefold purpose: "to know the child through child study and parent education; to cooperate with the schools and other educational agencies in his training through shared participation with teachers and educators; and to control and build his environment through the development of public opinion and civic activity."[1]

In policy, the organization is noncommercial, nonsectarian, nonpartisan, has no membership in other organizations, and anyone interested in child welfare may become a member.

Specific Objectives of Local Congress Units.—The specific objectives of local Congress units are guides for determining the activities for achieving the general objectives. Although the general aims are the same for all units, the specific objectives may vary according to the local situation, immediate needs, and interests. These will not only vary for different local units, but will also change from year to year in a given community. As one goal is reached others are established. Some of the objectives are continuing; that is, they represent continuous activities such as keeping the parents informed of the work of the school. Some specific objectives which have been accepted by many local units and which reveal the types of activities in which they engage are:

1. A knowledge of the aims, purposes, and objects of the National Congress of Parents and Teachers.
2. An understanding of the broadened concept of education and the importance of cooperative efforts of all agencies contributing to the educational development of a child.
3. An understanding of educational and social forces and how these affect parents, teachers, and children.
4. An appreciation of the place of organized, cooperative effort in modern social life and of the importance of organized parents and teachers in community life.
5. An appreciation of human relationships and how such relationships are promoted.

Butterworth[2] states six specific objectives of parent-teacher associations:

1. To give members an understanding of the objectives and methods of the school.

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[1] *Ibid.*, p. 7.

[2] Julian E. Butterworth, "The Parent Teacher Association and Its Work," pp. 149*ff.*, The Macmillan Company, New York, 1938.

2. To learn to apply accepted educational objectives and methods to the out-of-school environment.
3. Under certain conditions to give school officials suggestions as to reasons why the school fails or succeeds.
4. To aid in educating the community in desirable aspects of the school's program.
5. To facilitate acquaintance among parents and teachers.
6. To raise funds under certain conditions.

Activities of Parent-teacher Associations.—The two main types of activities of local units are conducted through general meetings and through study groups. A few typical program topics for general meetings are:[1]

1. Securing better relationships between the home and the school.
2. Improving community health.
3. Curriculum changes for modern living.
4. Educational trends.
5. Guidance of youth in a modern world.
6. Home and school as centers of culture.
7. Juvenile protection in the community.
8. Legislation affecting children and youth.
9. Safety in the home, school, and community.
10. Social and mental hygiene.

Many study-group topics have been suggested by the National Congress of Parents and Teachers, who are able to supply reading materials to local unit groups. Some suggested topics are:

1. A study of the adolescent.
2. Child legislation.
3. Juvenile protection.
4. Parent education.
5. Vocational education.
6. Youth and home problems.

The lists of suggested program and study-group topics should be modified and changed to meet local conditions and needs. Over and above these the organizations may work on short- or long-term projects, such as improving the school library, establishing playgrounds, serving hot lunches, beautifying the school grounds, and raising money to purchase needed equipment for the school.

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[1] "Local Unit Reports, 1938–39," pamphlet, National Congress of Parents and Teachers, Washington, D.C.

Studies Pertaining to Parent-teacher Associations.—Many studies have been made concerning parent-teacher associations in attempting to answer questions concerning their limitations, accomplishments, reception by school administrators, shortcomings, and strengths.

Butterworth found that the parent-teacher associations were subject to the following limitations: (1) they cannot have direct, legal control of the schools; (2) it is not the responsibility of the parent-teacher association to finance the schools; (3) they should not undertake duties of a technical character for which the members are not prepared; and (4) they have no authority over the various other agencies having educational influences.[1]

In the White House Conference Report of 1932 a conclusion was reached concerning parent-teacher work after studying many state, city, and local organizations, which stated in part, was:

> The parent-teacher, or home and school movement, is bringing the family and the home back into the educational system. It is for the school to recognize that fact and to make the most of this new factor. Through it may come not only a better understanding of the child and greater success with his development in the program, but material advantages hitherto slowly and painfully acquired because of the gulf between the professional educationalist and the non-professional parent.[2]

According to Holbeck, the most serious single factor which has militated against the success of the parent-teacher association has been its wide diffusion of interest, its inability to understand that its purpose and function, in fact, its only excuse for existence, is its potentiality as a means of educating parents in order to make these parents realize their job and understand their duties to the child and to the community. Holbeck found that too frequently entertainments, social intercourse, and unrelated program activities have comprised the plan of work outlined by the local units to the virtual exclusion of worth-while educational material and activities.[3]

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[1] Butterworth, *loc. cit.*

[2] "White House Conference on Child Health and Protection, Home and School Cooperation," p. 122, D. Appleton-Century Company, Inc., New York, 1932.

[3] Elmer S. Holbeck, An Analysis of the Activities and Potentialities for Achievement of the Parent-Teacher Association with Recommendations, pp. 126*ff.*, *Teachers College Contributions to Education* 601, Teachers College, Columbia University, 1934.

SCHOOL PUBLICITY

The parent-teacher association is one agency in promoting public relations, but others are also essential for the school to properly interpret the educational program to the community. The parent-teacher association does not reach the entire community, and in many places other organizations such as civic clubs function in its place.

Purposes of School Publicity.—It has been claimed that too often "educators fail to keep their educational goods in the store window." This neglect has resulted in a failure to secure cooperation, gain financial support, prevent misunderstandings, and secure needed changes and improvements. Parents pay for what they want, and if secondary education is not receiving the support it should, it is because they have not been convinced of the value of the expenditure.

The functions of school publicity as formulated by the Department of Classroom Teachers of the National Education Association were:[1]

1. To create a public opinion favorable to the establishment and continuous support of any legitimate school function.
2. To prompt the school to be critical of its own work at all times.
3. To gain cooperation between the home and the school in educating children.
4. To satisfy a demand on the part of interested patrons for reliable information about the school.

These aims of school publicity might be classified under three heads: to prevent misunderstandings, to secure financial support, and to secure support of policies.

It is not uncommon for the school to receive adverse criticism because of a misunderstanding. The greatest single agency of school publicity is the pupils of the school, and it is quite frequent that their accounts are not accurate. Aside from cases of deliberate falsification, they either omit certain vital information or do not see the situation from the same point of view as the school officials. To prevent these misunderstandings other forms of publicity are necessary.

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[1] "Teacher and Public," pp. 12–13, Eighth Yearbook of the Department of Classroom Teachers, National Education Association, 1934.

In the next section it will be shown that the taxpayers can afford to support the high school as based on the low percentage of the national wealth spent for education (about 1.5 per cent), and the much larger amount spent on certain luxuries. If something else is wanted more than high schools, then financial support will not be given. It is an anomaly that the citizens of the United States fought for years to secure free public high schools, and, after getting them, have to be urged to continue their support. It is only natural, however, that the public be informed as to how their taxes are being spent and the benefits which are being derived from their support of the high school.

This is not an easy task, for the outcomes of instruction are not very tangible or obvious. Occasionally pupil growth influenced or produced through the stimulation of a high-school environment can be observed directly, but generally speaking it requires years before the complete outcomes of instruction have evidenced themselves in some observable form of activity, and then it is difficult to differentiate the relative effectiveness of the formal and informal educational agencies. Other professional groups do not find it so difficult to demonstrate results; a doctor heals a patient, and the achievement speaks for itself. Teachers must employ entirely different techniques. Society is referring more and more of its problems to the school, lending little cooperation in their solution, and often criticizing the results, or the lack of results, produced.

The final aim, that of securing the support of policies, has been criticized in that it implies that the school determines all policies and then asks the patrons of the school to accept them. Democratic school administration invites concerted and united efforts of all persons concerned in formulating policies, but they cannot be formulated through mass meetings. Policies are guiding principles which regulate future conduct. They are formulated only after careful study extending over a period of time, during which all persons concerned or interested have an opportunity to express themselves. After being formulated and approved by the school faculty and the board of education, they are presented and explained to the public with the facts which determined the wisdom or expediency of accepting such guiding principles.

Once a policy is accepted, it should not be reconsidered unless new evidence is presented, for it is assumed that it was formulated only after due deliberation, and a reconsideration of the same facts would be a waste of time.

Policies are not rigid, ironclad rules of conduct, but guiding principles, and as such may be set aside temporarily if circumstances and conditions warrant, without invalidating the original policy.

Some Specific Information Which Should Be Given Publicity.—Some school activities should be given publicity because they are what the parents want to know about the school, and others, because they are what they should know about the school.

There is some disagreement between what parents want to know about the school and what newspaper editors seem to think they want. A tabulation of the types of school news printed in local papers shows that extracurricular activities are given more space than any other type. At the same time, the parents indicated they were more interested in pupil achievement and pupil progress, methods of instruction, health, courses of study, and the value of education than in extra activities, parent-teachers' associations, and boards of education. There was almost a reverse order found between the rank order of importance given 13 items by 5,967 patrons and by the space given these in 10 newspapers.[1]

Some of the information about which parents should be informed is:

1. The purpose, aims, and objectives of the high school.
2. The objectives and purpose of each subject in the curriculum.
3. The reasons why school costs are increasing.
4. Reasons why the curriculum needs modifying.
5. Explanation of modern trends in organization and presentation of subject matter.
6. Value and interpretation of a testing program.
7. Direction of the educational- and vocational-guidance program.
8. Parent-school relationships with respect to:
    a. Home study.
    b. Commercialized amusements.
    c. School clubs meeting in homes or after school hours.

Agencies and Media of School Publicity.—The greatest single agency of school publicity is the pupils. If each one is adjusted to the school environment, the publicity will be favorable, but if he is not he will easily find something to criticize. The greatest and best publicity for any school is a group of happy, well-adjusted pupils. Much time has been wasted in some schools trying to explain why pupils are not adjusted rather than in revamping the school so they will be.

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[1] Belmont M. Farley, What To Tell the People about the Public Schools, pp. 16, 37, 49, *Teachers College Contributions to Education* 355, Teachers College, Columbia University, 1929.

Some specific agencies of school publicity are:

The Report Card.—The report card is the most frequent form of written publicity which goes to the homes. Many forms, types, and varieties are employed in different schools, the most common being a listing of courses and marks earned, either expressed in letters or percentages, and, in addition, a rating on deportment, and, often, a rating on personality. Recent trends are to substitute this type with informal notes to parents stating the weak and strong points of each pupil, or to use a three-point marking system: superior, passing, and needed improvement. The latter is being substituted for "F" meaning "failure." When "needed improvement" is reported, it may be followed with a note indicating in what respects the improvement is needed with an invitation for the parents to cooperate in an effort to bring about improvement.

The School Paper.—The school paper, if written by the pupils, is always a source of interest to patrons. It may be printed, mimeographed, or printed in the local paper. It is doubtful if it should be financed by advertisements, for often businessmen feel it is a gift rather than a purchase of advertising.

American Education Week.—Once a year, usually each fall, the National Education Association and the American Legion sponsor an American Education Week. The Journal of the National Education Association publishes a program which may be followed in all schools and related groups during the week.

Parents, teachers, pupils, and outside speakers may take part on school programs designed to educate the public concerning the aims and functions of the school. Interest is gained by concerted activity during a week set aside for the purpose.

Commencement Programs.—The commencement season is an excellent time to present to the parents many important features of the school. Pupils or outside speakers or both may take part. A summary of the year's work and needs for the future may be presented during this program.

Other methods which may be employed are school exhibits, demonstrations, parents' day, athletic events, plays, operettas, and entertainments. In employing these media for purposes of school publicity, entertainment should be made secondary to the message which is to be given patrons.

THE COST OF SECONDARY EDUCATION TO THE COMMUNITY

To provide secondary education for all youth who desire to attend is a goal which cannot be attained save by an enormous cost to the taxpayer. From a financial viewpoint, the goals are to provide equal educational opportunities and to equalize or distribute the costs so that each taxpayer pays according to his ability. Some public enterprises are financed by charging the direct beneficiaries more than the indirect, *e.g.*, concrete roads, for which there is a tax on gasoline and in some cases tolls for the use of the roads. If the schools were operated in the same manner, the pupils, who are direct beneficiaries, would be required to pay a tuition. This system, which was practiced by the tuition-academy has long ago been condemned as contrary to American ideals of democracy. The high school is supported by the entire population whether the benefits are direct or indirect.

What Do Schools Cost?—This question as to what schools cost should be answered in two parts: the cost of buildings, grounds, and equipment; and the cost of operation, which includes maintenance and teachers' salaries. The total cost of all public education in the United States for the school year 1935–36 was $2,650,000,000 and that for public high schools, $764,201,566.[1] Private high schools cost an additional $45,411,980, but since these are tuition schools, supported by those receiving direct benefits, who at the same time are helping through taxes to support the public high schools, they will not be considered in the cost of secondary education to the community.

This sum of almost 800 million dollars represents all funds paid for any purpose for high schools during the school year of 1935–36. The cost of buildings enters into this figure only to the amount paid toward buildings in that year. School districts usually spread the cost of buildings over a long period of time by borrowing money through the sale of bonds and amortizing them at a certain rate each year.

In Table 61 is shown the percentage distribution of current expenses for elementary and secondary education. The item of greatest expense is for instruction, 74.3 per cent, which includes instructional supplies. The per capita cost for all pupils in average daily attendance was $74.30 excluding the amount spent on capital outlay and debt service, which when included made the total amount spent per year per pupil $87.94. This amount was for elementary and secondary schools combined. It is estimated that the cost for elementary alone averages $57.69, and that the secondary schools cost, 1.7 times this, or $98.00 per year per pupil.[1]

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[1] Education in the United States of America, *U.S. Office of Education Bulletin* 3, 1939, p. 55.

Variations in Per Capita Costs among the States.—Although the average expenditure for current expenses per pupil in average daily attendance was $74.30, there was a great variation among the various states. The lowest expenditure was $27.15 for the State of Arkansas, and the highest, New York, $146.90. Those states ranking well below the average are Arkansas, Mississippi, Alabama, Georgia, North and South Carolina, and most of the Southeastern states. Those well above are New Jersey, California, Nevada, and New York.[2]

TABLE 61

PERCENTAGE DISTRIBUTION OF CURRENT EXPENSES FOR PUBLIC SCHOOLS AND THE PER CAPITA COST ON THE BASIS OF AVERAGE DAILY ATTENDANCE, 1936*

Purpose	Per cent of total	Per capita cost on average daily attendance
General control	4.1	$3.02
Instruction	73.3	54 46
Operation	10.2	7.57
Maintenance	3.9	2.89
Auxiliary agencies	5.9	4.40
Fixed charges	2.6	1.96
Total current expenses	100.0	74.30
Capital outlay	.....	7.68
Interest	.....	5.96

* Statistics of State School Systems, 1935–36, Biennial Survey of Education, 1934–36, *U.S. Office of Education Bulletin* 2, 1937, p. 32.

Data are for elementary and secondary schools combined.

These gross inequalities reveal how far the United States is from attaining her goal of equalizing educational opportunities. This does not mean that the Southeastern states have not established such a goal, but that they have less wealth. Many of the less wealthy states put forth a greater effort and raise less money than many of the wealthier states. These inequalities apparently call for federal aid in order to equalize facilities.

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[1] Payson Smith, Frank W. Wright, and associates, "Education in the Forty-eight States," p. 38, The Advisory Committee on Education, Government Printing Office, Washington, D.C., 1939.

[2] Statistics of State School Systems, 1935–36, Biennial Survey of Education, 1934–36, *U.S. Office of Education Bulletin* 2, 1937, p. 40.

Sources of School Revenue.—The principal source of all school revenue is from local property taxes. Although the amount derived from this source in different states varies from 99 per cent in Nebraska to 7.7 per cent in Delaware, the average for the United States was 63.1 in 1936.[1] In Table 62 is shown the percentage derived from the four main sources of revenue: federal, state, county, and local. That derived from the local districts and from the counties usually represents collections from local property tax. When the percentage from the counties is added to the local districts, the sum is 70.2 per cent derived mostly from property taxes.

TABLE 62

AMOUNT AND PERCENTAGE OF INCOME FOR SCHOOL PURPOSES DERIVED FROM VARIOUS SOURCES, 1936*

Source	Amount	Percentage
Federal	9,849,574	0.5
State	578,369,087	29.3
County	140,133,116	7.1
Local and subsidies	1,243,050,649	63 1

* Statistics of State School Systems, 1934–36, Biennial Survey of Education, 1934–36, *U.S. Office of Education Bulletin* 2, 1937, p. 24.

This form of securing funds was once an equitable method for the value of one's property and was a good index of his income. Changes in our economic system have altered this condition, for property is often in the form of bonds, stocks, mortgages, and securities, which are difficult to tax; and real-estate values often do not indicate the income which can be derived therefrom. To remedy this situation, the states are gradually increasing the amounts appropriated to the schools. The source of their income is usually from a small property tax, and various forms of indirect taxes from such sources as income, sales, luxury, tobacco, inheritance, and severance taxes.

The practice of increasing the proportions derived from state funds is desirable. It distributes the costs more widely, and it is based more on ability to pay. As a general principle, indirect taxes are easier to pay than direct taxes, although they are not always so easy to collect. Distributing funds on a state, rather than on a local, basis has a much greater tendency to equalize opportunities, because of the inequalities in the wealth of local areas. States usually distribute funds according to need after the local community has made an effort to support an adequate program.

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[1] *Ibid.*, p. 24.

The federal government has never assumed a great share in school finances. The percentage from this source in 1936 was only 0.5. Federal sources are mostly for stimulating and aiding in vocational education through the Smith-Hughes and George-Deen Acts, through the Public Works Administration, and through special aid in emergency situations during the depression. There is a strong agitation at present to secure more federal participation.

In commenting on the methods of financing education, *i.e.*, by local property taxes, in over 199 thousand school units, Frank J. Murray made the following statement:

> No other governmental service can be of such general benefit as education. Nor is there any other service that makes its claims for existence with more lofty phrases. Yet it collects its cost more unjustly than any other governmental unit.
>
> Nor is there any other governmental service that within itself spreads its direct benefits so haphazardly, selfishly, and unjustly.
>
> No other unit of local government makes such saintly claims nor more frequently prates of the advantages it showers, nor more often points the finger of scorn at its fellow spenders, and yet is more vulnerable to the charges of unjust taxing, waste, inefficiency, or failure to produce in accordance with its claims.[1]

FEDERAL SUPPORT FOR EDUCATION

The inequalities among the various states in educational facilities cannot be ameliorated unless the federal government gives more support. There has been a tendency to remove some of the support from the local to the state governments, which has done much to distribute the costs, but differences among states are still too great.

The Harrison-Thomas-Fletcher Bill, introduced into Congress in 1936, provided for appropriating funds to the various states on the basis of the number of persons 5 to 20 years of age, which funds might be apportioned to the districts as each state should choose.

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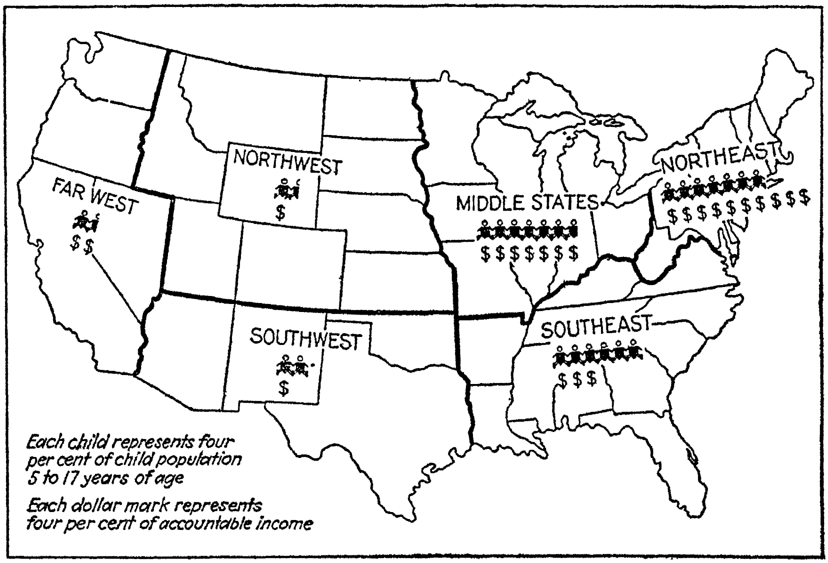
[1] Frank J. Murray, address on Educational Finance, National Real Estate Tax Conference, Washington, D.C., May 26, 1940, mimeographed.

Each state, in order to qualify, must make a certain effort in order that none would attempt to depend wholly on the federal government for school support.[1]

Although this bill was tabled in 1939 for more pressing measures concerning the national safety during the Second World War, at the present time (1941) a comparable bill is being considered in Congress. The main arguments advanced for the participation of the federal government in educational facilities are:

1. Inequalities among the states make federal aid necessary.[2] At the present time there are marked inequalities of educational opportunity. States vary in their abilities to support education, and the size of the educational task is so great and varies to such an extent the federal government should aid in it. Some of these inequalities are in the length of the school terms, the salaries paid teachers, the value and condition of school property, and differences in equipment and supplies. There are also gross differences in rural and urban wealth and facilities. As shown in Fig. 42, there are



Each child represents four per cent of child population 5 to 17 years of age

Each dollar mark represents four per cent of accountable income

FIG. 42.—Distribution of wealth in relation to the number of children in the United States. [*Drawn from Population Trends and Their Educational Implications, Research Bulletin of the National Education Association,* **16** (*January,* 1938), *p.* 29.]

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[1] Federal Support for Education, *Research Bulletin of the National Education Association,* **15** (September, 1937), p. 158.

[2] *Ibid.,* pp. 161–165.

differences in the wealth of various sections of the country in proportion to the number of children to be educated. The relationship is negative, *i.e.*, in such sections as the Southeastern states, there are more children in proportion to wealth than in the Northeastern states. If the goal of universal secondary education and equal educational advantages are to be extended to all youth, the costs must be distributed, the money must be raised where the wealth lies, and spent where the children are.

2. Present conditions tend to perpetuate the inequalities among the states.[1] The differences in the natural increase in the population in various regions tend to perpetuate a larger number of children in certain areas which do not have a proportionate income. Migrations have been in the direction of urban away from rural centers since the First World War. There has been a movement of wealth in the same direction, and growth in corporate ownership and control of natural resources makes it difficult for states to tax it for school purposes.

3. There is such a difference in wealth among the states they cannot overcome the existing inequalities by themselves.[2] Natural resources and wealth are not equally distributed over the nation, and a state unfortunate enough not to possess such wealth should not have to suffer educationally.

4. The nation can afford to support education.[3] The amount spent on luxuries far exceeds the total cost of all education. The general statement that "people pay for what they want"; and an answer to the question "can the United States afford to extend educational facilities to the masses?", are both illustrated and answered by comparing the amount spent per year for certain luxuries, amusements, and for automobiles, which are both for pleasure and utility. For the year 1934 the cost of all education, elementary, secondary, and higher, was about two-thirds the amount spent on tobacco, ice cream, candy, and chewing gum (Table 63). The tobacco bill alone was over twice as great as that for public secondary education, which was the least of all items compared.

The amount spent for public secondary education in 1934 ($573,170,231) accommodated only about 60 to 65 per cent of all youth of secondary-school ages. If facilities were extended to only half of the remaining 3,500,000 youth who are not enrolled in school,

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[1] *Ibid.*, pp. 167–171.

[2] *Ibid.*, pp. 173–175.

[3] *Ibid.*, pp. 177–178.

TABLE 63

NATIONAL EDUCATIONAL EXPENDITURES AS COMPARED WITH OTHER NATIONAL EXPENDITURES FOR THE YEAR 1934*

Item	Amount
All public education	1,926,091,697†
Secondary education	573,170,231†
Tobacco	1,344,000,000
Ice cream, candy, and chewing gum	1,299,073,000
Theaters, movies, and similar amusements	600,000,000
Toilet preparations and beauty-parlor services	314,368,000
Passenger automobiles (new)	1,229,400,000
Life-insurance premiums	3,066,304,933
Accumulated savings deposits	22,000,000,000

* Financing Public Education, *Research Bulletin of the National Education Association* 15 (January, 1937), pp. 50–51; 15 (September, 1937) p. 177.

† Statistical Summary of Education, Biennial Survey of Education, 1932–34, *U.S. Office of Education Bulletin* 2, 1935, p. 12.

it would involve an additional annual expenditure of $171,500,000; and for all youth it would increase the total cost approximately $343,000,000 annually. These estimates are based on an annual cost per pupil of $98.00 which is 1.7 times the average yearly cost per elementary school pupil or $57.69.[1] Thus, at the present per-pupil cost of education, all youth between the ages of 14 and 17 inclusive could receive secondary educational facilities at a cost of about one billion dollars a year. This total cost represents about 1.4 per cent of the national income of $63,799,000,000 estimated for 1936.[2]

From these data it can easily be seen that the United States *can* extend educational facilities to every youth in the United States and still not spend so much as it spent on a few luxuries.

5. Education in the states is a national concern. Principles of democracy can be extended and practiced only as the judgment and knowledge of the masses is improved by education.

Increase in School Costs since 1870.—From 1870 to 1920 there was a gradual increase in school costs. From 1920 to 1929, school costs increased very rapidly, more so than the general or school population (see Fig. 43). During the depression of the 1930's public schools suffered from a loss of income which they have been slowly trying to recover. On the basis of 1931–32 as 100, the index for income for public education in 1933–34 was 86.8 and in 1935–36 it was 97.8. These index numbers reveal that the schools are gaining what they lost in the economic depression; but much of this gain was for capital outlay from the federal Public Works Administration,[1] and funds for emergency purposes.

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[1] Smith, Wright, and associates, *op. cit.*, p. 38.

[2] Robert R. Nathan, National Income, 1929–1936, p. 11, Government Printing Office, Washington, D.C., 1937.

The increased costs were due to the following factors:[2]

1. From 1914 to 1930 there was a change in the purchasing power of a dollar, which accounts for 55 per cent of the increase.

2. Increased enrollments, especially in secondary schools, and the greater number of days schools were in session, accounted for 29 per cent.

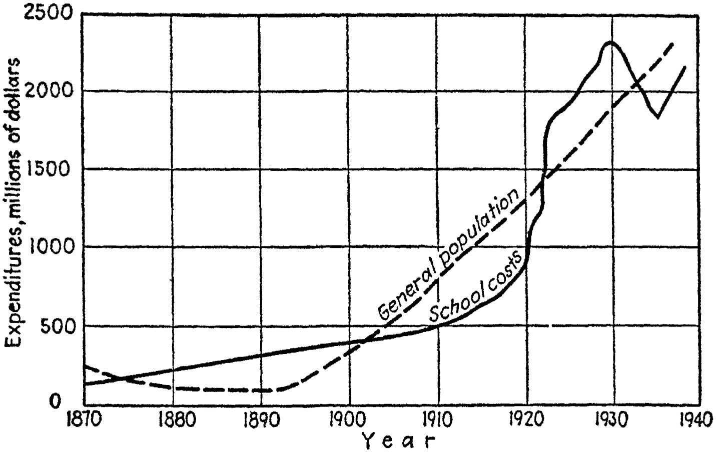

FIG. 43.—Trend in school expenditures from 1870 to 1936 compared with increase in the United States population. [*Why Schools Cost More, Research Bulletin of the National Education Association*, **16** (*May*, 1938), *p*. 134.]

3. Increased costs of improved facilities, higher building standards, more equipment, and additional services rendered by the schools, accounted for the remaining 16 per cent.

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[1] Statistical Summary of Education, 1935–36, Biennial Survey of Education, 1934–36, *U.S. Office of Education Bulletin* 2, 1937, p. 29.

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CHAPTER XIX

TRENDS AND ISSUES IN SECONDARY EDUCATION

As shown in Chap. I, there are all types and varieties of high schools in the United States. They differ in organization, administration, curriculums, and in aims and functions. This variety is desirable, for by varying practices, educators have an opportunity to determine by means of comparison and contrast the best type of institution. Perhaps a common type is not so desirable as a number of types, for that which meets the needs and situations of one locality does not necessarily meet the needs of another.

Recently there has been much experimenting in secondary schools, especially in curricular organization, methods of teaching, and methods of evaluating procedures. Two opposing factions have aligned themselves on various issues. They are commonly known as the progressives and the conservatives. The progressives are those who have deviated most radically from traditional practices; the conservatives, those who are slow to change their curriculums, organization, or methods.

Both groups are essential. Without the progressives there would be no progress. Without the conservatives, there would be no basis for comparison or any check on radical practices. It is a mistaken idea to assume that there is virtue in newness merely because it is new, or that there is no virtue in the old. Many practices of the past which have been tried and tested are excellent, and should be preserved; likewise many are outmoded, and out of step with the times. Many progressive practices may be traced back to ancient times and have recently received new emphasis.

Still other groups believe in and practice the old adage, "Be not the first by whom the new is tried, nor yet the last to lay the old aside." This group prefers to let others do the experimenting and, if any good is found, employ it.

Schools cannot be closed while they are being remodeled. The instruction of youth must continue. Progressive changes must proceed slowly and cautiously, and of necessity practice must lag behind theory, for it is theory which determines the direction of practice.

ISSUES OF SECONDARY EDUCATION

Due to these opposing groups and other factors, many problems concerning the aims, functions, and purposes of the high school have been raised. For many of these, there is no authoritative answer. Ten of these issues were selected by the Committee on the Orientation of Secondary Education of the Department of Secondary School Principles of the National Education Association as a basis for discussion in group meetings of high-school teachers of the nation. The issues are:

1. Shall secondary education be provided at public expense for all normal individuals or for only a limited number?
2. Shall secondary education seek to retain all pupils in school as long as they wish to remain or shall it transfer them to other agencies under educational supervision when, in the judgment of the school authorities, these agencies promise to serve better the pupils' immediate and probable future needs?
3. Shall secondary education be concerned only with the welfare and progress of the individual, or with these only as they promise to contribute to the welfare and progress of society?
4. Shall secondary education provide a common curriculum for all, or differentiated offerings?
5. Shall secondary education include vocational training, or shall it be restricted to general education?
6. Shall secondary education be primarily directed toward preparation for advanced studies, or shall it be primarily concerned with the value of its own courses, regardless of a student's future academic career?
7. Shall secondary education accept conventional school subjects as fundamental categories under which school experiences shall be classified and presented to students, or shall it arrange and present experiences in fundamental categories directly related to the performance of such functions of secondary schools in a democracy as increasing the ability and the desire better to meet sociocivic, economic, health, leisure-time, vocational, and preprofessional problems and situations?
8. Shall secondary education present merely organized knowledge, or shall it also assume responsibility for attitudes and ideals?
9. Shall secondary education seek merely the adjustment of students to prevailing social ideals, or shall it seek the reconstruction of society?
10. Granting that education is a "gradual, continuous, unitary process," shall secondary education be presented merely as a phase of such a process, or shall it be organized as a distinct but closely articulating part of the entire educational program, with peculiarly emphasized functions of its own?

The majority of these questions have been answered either directly or indirectly in the previous chapters. The view taken by the authors on these questions might be summarized by brief answers. It must be kept in mind that these answers are not complete. Many of the questions cannot be answered categorically for a greater freedom of statement must be permitted in order that one's position might be understood.

1. Secondary education should be provided at public expense for all normal individuals.
2. Secondary education should seek to retain all pupils as long as they can remain in school.
3. Secondary education should be concerned with the development of an adolescent as an individual personality. At the same time the welfare of society should be considered to the extent that the individual contributes to that welfare and cooperates with others for its advancement.
4. Secondary education should provide a common or core curriculum for all youth and in addition to this provide a number of electives of an academic and vocational nature to provide for individual differences.
5. Secondary education should provide for a general background for all vocations rather than attempt to provide special training for certain specific or particular vocations. All subjects in the curriculum should have values sufficient to justify them on other bases than vocational.
6. Secondary education should be concerned primarily with the value of its own courses with a minimum of regard for the pupil's future academic career.
7. The secondary school should arrange and present experiences in fundamental categories which are directly related to the purposes of the secondary school in a democracy such as increasing the ability and the desire better to meet sociocivic, economic, leisure-time, vocational, and home and community life problems and situations.
8. Secondary education is concerned not only with the presentation of organized knowledge, but also with the acquisition of habits and skills, and with the development of desirable attitudes, ideals, and appreciations.
9. Secondary education should be concerned not only with the adjustment of the individual to society but also with the reconstruction of society. It should cooperate with the community in the solution of problems.
10. Secondary education should be organized as a distinct but closely articulated part of the entire educational program. The boundaries of secondary education should be distinct enough that within them its peculiar functions may be recognized, and indistinct enough that there will be no gaps or abrupt changes as one progresses from one stage of the school system to that of another.

Should Scholarship or Erudition Be Stressed More in the Secondary School?—One of the criticisms often advanced against the high school is that scholarship is not stressed enough. Some are claiming that the standards are being lowered in order that the masses may receive passing marks, be promoted, and graduate. Many of those who make this criticism are not well informed about the aims of the high school. They believe it should produce "little scientists," or artists, or mechanics. This is not its purpose.

Before the high school expanded to include the masses, scholarship of a more rigid type could be maintained. When standards were pitched for the select few they could be higher. When the school first started to include those of less ability, teachers deliberately excluded many of them if they could not profit by the type of curriculum then in vogue, that is, an academic, classical curriculum. Since then changes have been made so they could profit. When the more intelligent pupils pursue the same courses as the less capable they do not have to work so hard as they formerly did in order to make passing marks. The remedy does not lie either in changing the quality of pupil, that is, making the school more selective, or in reverting to a more academic type of curriculum. The solution is to be found in methods of teaching. When pupils of varying abilities are found in the same class, the course should be enriched for those of higher abilities rather than the teacher permitting them to use their superior ability to make passing marks by doing less work. If the school is large enough to offer many electives, the more capable ones should be encouraged to enroll in courses in which the group will be so select that more erudition may be stressed.

The pupils of the American high school have often been compared with those who have finished secondary schools of Europe. In scholarship, the pupils of Europe excel those of the United States.

There are several factors causing this superiority:

1. European schools are much more selective than those in the United States. In Europe pupils are admitted only on the basis of ability or ability to pay the fees. In the latter case, there is a relationship between ability to pay and ability to learn, although it is not perfect.
2. Erudition and culture are primary aims of European schools. They place the training of the mind first. In the United States, citizenship is placed first.

3. European pupils spend more time in secondary schools in terms of years. There are about two years difference in the quality of work and ground covered with French and German boys as compared with American pupils.
4. The school term is longer in Europe than in the United States.
5. Methods of teaching are different.
6. Standards in Europe are higher and competition is keener, motivated by examinations.
7. The European teacher is better prepared and trained.

Comparing the secondary-school pupils of Europe with those of America in scholarship is useless, for they are not similar. One cannot compare the product of education of the classes with those of the masses. In Europe the group is small, select, mostly boys, and homogeneous with respect to academic ability; in America the group is large, composed of equal numbers of both sexes, and composed of all classes in abilities, interests, and aptitudes. Further, the curriculums are different. One cannot compare a boy selected on the basis of ability who has survived the rigid examinations of the English public schools, the French, *lycée*, or the German *Gymnasium* in a classical curriculum studied from the ages of 10 to 13 to the ages of 17 to 18, with an American boy who pursued an entirely different curriculum for a period of four or six years in secondary education.

A few excerpts from the following article which appeared in the London *Times* will explain the difference in standards of schools in the United States and England:

> In general, the English observer marvels at the large amount of money spent on buildings and equipment in American schools, but they consider our method of instruction a complete failure in the training of character, political leadership, and service. The subject matter of the high school courses in America are somewhat like those of England. The four major courses taught are English, history, mathematics, and science. When an Englishman applies the test of refinement and scholarship to American pupils, he finds them below the average. Therefore,) he concludes that America's standards are built on money and industry while those of England are built on cultural refinement, character training, and political service.
>
> The English visitor thinks the American schools are striving to be like those of England. American schools must be judged in their own setting, aims and objectives if the comparison is just. The United States is a vast region and each state has its own individual educational laws and problems; therefore, it is rather difficult for one to generalize on the educational system of the United States.

One should not overlook the fact that the high schools of the United States are striving to give a formal education to nearly all adolescents. One city boasted the fact that 95 per cent of the children of high school age attended school last year; in Ohio, 75 per cent attended; and two years ago 60 per cent of all the population of high school age were enrolled in the high schools of this country.

The problem of standardization of American schools is nearly solved; but the schools are faced with a new problem—the problem of adapting the high school to individual needs and community responsibilities. Today it is realized that our schools are made up of different types and classes of children that should be trained to become acceptable and responsible citizens. As a result, the American schools are stressing civics, while English schools stress classics and have yet to make experiments with the teaching of citizenship.

The average American high school student attains less in subject matter than the student in the English secondary school, but one must bear in mind the type of students attending the schools. In the American schools there are many children from poor and uncultured homes and from foreign parents. These children are at a great disadvantage. If the American high schools are to be compared with those of England, all factors must be taken into consideration such as number of pupils and social origins that go to make up the schools.

One of the most unfair criticisms against the American schools is that they train their pupils poorly for the responsibility of citizenship. The school can do very little to correct basic social mischief. There is one thing the American schools should be credited with: that is the establishing of democratic ideals throughout the continent.[1]

Generally speaking, the French and German boys who have finished the *lycée* and *Gymnasium* have the equivalent of junior standing in our American colleges. There is closer articulation between secondary schools and universities in Europe than in America. Work completed in secondary schools in the former is not repeated in college. In America, we make the passing of examinations an end in itself, promote cramming, and set standards so low for the less capable pupils that those of higher ability are not challenged to do their best. In Europe, the cultural goals and objectives are constantly kept before the students, intellectual problems are constantly engaged in, and interest in the subject is paramount; while in America the chief aim on the part of many pupils is to accumulate credits, pass examinations, and graduate with the least possible effort.

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[1] Low Standards in Our Schools, from *London Times*, in *The School Review*, **45** (March, 1937), pp. 161–164.

Should the State Give More Aid to Capable Youth Who Are Financially Unable to Provide Themselves with Secondary and Higher Education?—As shown in previous sections, there are many youth who cannot avail themselves of a secondary education because no school is accessible unless they board away from home, pay tuition or the cost of transportation, or both, and many who start to school must drop out before graduation mainly because of their economic condition. It has been shown that there are many young people intellectually capable of doing college work not enrolled. In fact the number of capable students not attending is as great as the number attending. The main reason for nonattendance is lack of funds. To what extent should the government aid these youths as individuals rather than give them indirect aid by supporting the entire school system? It is a loss to society if they are not trained to the fullest extent of their capabilities. There are those who argue that, if they have the ability, in this day and age they can get an education through formal schools if they want it. This is not entirely true. Many find it impossible without aid. Thousands have been aided in both secondary schools and colleges through the National Youth Association, but this is not reaching all who should be given college training.

Several countries of Europe have recognized that ability and money do not always occur together, that it is a loss to society if capable youth are not trained, and are providing for them.

One of the principles of the *École Unique* in France is utilizing all resources of talent and ability wherever found. This includes a common elementary school for all and secondary education without fees for poor boys with aptitudes. In Germany where the tuition fee is set at 240 marks a year, free places are granted to highly gifted children of excellent character, achievement, and general aptitude. The total number of free places shall not exceed 10 per cent of the total enrollment. In England, where a tuition fee has been charged in secondary schools for years, there is a gradual tendency to remove the fees for capable youth. A fourth of the places in the publicly supported secondary schools are required to be free, and some admit a higher percentage on this basis. At the ages of 11 to 13, pupils of the public elementary schools may take the "free place examinations." Those making the highest records are granted the privilege of entering a secondary school with a scholarship which pays fees and often an additional grant for maintenance and clothing. In Russia, as in the United States, there is no tuition fee. In Italy under the reforms of 1939, capable boys who do not have the means are guaranteed an opportunity to study in college by the state. In Canada the state pays for correspondence courses pursued by pupils who reside in remote areas with respect to accessibility to a school.

If other countries have recognized that the greatest resource which should be developed is their youth, and, if capable individuals do not have the means that the state should aid them directly, then the United States should at least consider the question.

TRENDS IN SECONDARY EDUCATION

There is much wishful thinking in stating trends. Often they constitute what one wishes would happen rather than the direction the secondary schools are taking. Trends must be based upon present conditions as they are related to the past. Changes which have been in evidence for several decades are more reliable for making predictions than those which merely represent innovations of the last few years.

EXTENSION OF GOALS

The previous chapters have shown the extent to which the United States has achieved her goals in providing secondary education for all youth. In some states the goals are far from being reached; in others, they have almost been attained; but, as they are approached, goals are set higher. One of the chief characteristics of the high school is its rapidly changing character, which is one of the best indications of a dynamic school which is essential to democracy.

The period of schooling is being extended for the majority of youth. This is evidenced in three ways:

1. The holding power to the twelfth grade is improving, which means that youth are remaining in school longer.[1]
2. Acceptance of public responsibility for some form of secondary education for 100 per cent of the eligible secondary-school populations,[2] and
3. In two states, Washington and California, and in various sections of the nation, goals have been extended to post-high-school training for all youth. This post training is in higher institutions, junior colleges, voca-

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[1] See previous chapters.

[2] Payson Smith, Frank W. Wright, and associates, "Education in the Forty-eight States," p. 39, prepared for the Advisory Committee on Education, Government Printing Office, Washington, D.C., 1939.

tional and trade schools, and many educators are advocating some type of organized apprenticeship training beyond a general training in twelve grades of public schools. Still other youth, after finishing a regular high-school course of a general nature, return for an additional year of training in vocational subjects.

TRENDS IN THE SECONDARY-SCHOOL POPULATION

The secondary-school population increased over 40 times, or doubled every decade from 1880 to 1930. No school in the history of education has shown such rapid development. From 1930 to 1940 the enrollment increased about 40 per cent, bringing into the various types of high schools about 70 per cent of all youth of secondary-school age.

It is estimated that the potential secondary-school population of about 10,000,000 between the ages of 14 to 17 inclusive will reach a maximum in a few years.

The declining birth rate which started affecting the elementary school from 1930 to 1934 has now started affecting the secondary school, but the secondary-school enrollment will continue increasing for many years, perhaps until the goal of providing some form of secondary schooling for all youth will have been achieved.

The secondary-school population is now almost a cross section of the general population, and the trends are toward a greater democratizing of the high school.

For years, the number of girls has exceeded the number of boys enrolled in high schools, but the trends are toward an equalizing of the two sexes, showing that the secondary schools are having an increased attraction for boys.

TRENDS IN RURAL EDUCATION

Trends are definitely toward the consolidation of small rural schools into larger ones, and the transportation of youth to these centers.

States are giving direct aid to local schools in transporting and paying the tuition of nonresident pupils to other district schools.

Slowly the small rural districts, which have been inhibiting the development of rural education, are being enlarged. Whether the county will be accepted as the optimum size of local school areas, or some indefinite area as "trade centers" or "community centers" will become the leading type, is a matter of speculation only. Many Southern states have organized on a county basis, but it can hardly be said that this is a trend restricted to secondary education.

THE SMALL AND LARGE HIGH SCHOOLS

From 1930 to 1938 the number of small high schools, or those enrolling fewer than 100 pupils, decreased from 60 to 39.5 per cent, showing a tendency to consolidate.

Relatively few high schools are large, only 50 enrolling 5,000 or more. Most of these, or 32, are in New York City or Brooklyn. Although the number of large schools has increased recently, the largest ones (over 10,000) have decreased in size by diverting pupils to other schools.

TRENDS IN REORGANIZATION

Since 1909 when the first high school reported that it had reorganized, the movement has advanced steadily until 1930. The growth was pronounced between 1920 to 1930, but was slightly retarded from 1930 to 1934. In 1934, 28.6 per cent of all schools were reorganized, enrolling 46.4 per cent of all pupils. If one considers only those pupils enrolled in grades 9 through 12, 37 per cent were enrolled in reorganized schools. In 1938, 38.7 per cent of all schools were reorganized, enrolling 56.5 per cent of all pupils.

According to Jessen[1] this slowing up of the reorganization movement is not an indication that it is arrested, for, on the contrary, evidence indicates that there will be a more rapid growth of reorganized schools in the future.

The types to be expected in the future will be of the junior-senior types rather than separate junior and senior high schools. Evidence of this type leading is shown by the increase in the number of pupils enrolled in reorganized schools of the last four years of high school, while the rate of increase of junior high schools dropped sharply. There has been no decrease in the rate of growth of undivided junior-senior high schools.

The type of school of the future may be the 4-4-4-4 type which includes both the kindergarten and the junior college as a part of the public-school system.

TRENDS IN CURRICULUM REORGANIZATION

The trends in curriculum reorganization may be divided into three divisions; (1) selection (2) organization, and (3) presentation of subject matter and experiences.

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[1] Carl A. Jessen, Trends in Secondary Education, Biennial Survey of Education, 1934–36, *U.S. Office of Education Bulletin* 2, 1937, pp. 7–8.

1. *Selection of Subject Matter.*—A skeptical attitude toward the traditional subject-matter offerings has been evidenced for some time and appears to be continuing. Traditional values are no longer accepted as adequate evidence of the value of subject matter.

New units and experiences are being added to the curriculum to prepare youth for living in modern society.

The trends are away from abstract, impractical, formal content to social, practical, and applied content.

Fine and practical arts are being prescribed as experiences all should provide.

Social studies and applied science and mathematics are becoming more important and foreign languages, abstract and formal science, and mathematics are losing ground.

2. *Organization of Subject Matter.*—The organization of subject matter is toward a more functional basis. Subject-matter divisions are being ignored as it is being realized that life does not present her problems in terms of subjects. Materials are being organized into units with a social center for presentation to pupils. Less emphasis is being placed upon textbooks and more on providing vital and challenging experiences in which all pupils are interested. Actual experiences are replacing vicarious ones. All activities formerly known as extracurricular are now being integrated into the entire curriculum.

3. *Presentation of Subject Matter.*—As contrasted with former methods of instruction, progressive methods of presentation of subject matter are more psychological than logical. This method is more individualized, relates activities to life situations, is more functional, and integrates all experiences into a unified whole.

TRENDS IN VOCATIONAL EDUCATION

The trends are definitely toward a more extended general training for all youth before the period of any specialization, or definite vocational decisions, are made. Specific training in special trades at the expense of economic and social training of a general nature is being condemned by both educators and businessmen who have had experience with the vocational school's product.

Elective courses of a vocational nature are being offered only in the eleventh and twelfth grades, and only those which have values other than vocational are being retained.

Vocational subjects are being limited to the fields of business, home, industrial arts, and agriculture, and they are being organized and taught so they will contribute to as many of the general aims of secondary education as possible. Emphasis in these subjects is being placed upon the exploratory and guidance values; the development of attitudes, ideals, and interests, rather than the development of specific skills through routine repetition and drill.

TRENDS IN EVALUATING SECONDARY SCHOOLS

The evaluation of secondary education must be in terms of the growth and development of the pupils, and the number of experiences they have had under the direction of the school as measured by their reactions and changes in conduct, rather than a counting or tabulating of the physical equipment of the school plant. Pupils grow and develop only through those experiences to which they react, so regardless of the potential environment of the pupil, it is his actual, or experienced environment which is effective.

Therefore, the evaluation of a secondary school is being made not in terms of such features as the size of the library, but how much is it being used? Not in the amount of scientific equipment, but to what extent is it used for demonstrations and individual laboratory work and how many pupils experience it?

Attempts are being made also to evaluate the less tangible outcomes as attitudes, interests, ideals, and appreciations. This is being done by keeping a cumulative record of activities, books read, reports given, tests taken, and scores made, excursions, club, assembly, and dramatic and vocational experiences. These are supplementing, *not replacing*, the usual conventional methods of evaluating by measuring the physical equipment, and testing on factual material. All are essential for a true evaluation.

TRENDS IN TEACHER EDUCATION

The majority of secondary-school teachers now have four years of training, or the equivalent, beyond the high school. There are definite tendencies to require four years at least beyond high school for all teachers, and a growing tendency to increase this period to five years or even more.

The type of training is characterized by:

1. Specialization in two teaching fields.
2. More general training to assure breadth in related fields or to develop a general cultural background.
3. Professional preparation for all teachers.

This pattern of training is essential for a teacher in an integrated curriculum, whether the integration is achieved through participation, cooperation, coordination, or unification. The time is past when a teacher need have a knowledge only of the field in which he is teaching. Likewise a knowledge of the aims, purposes, principles, and philosophy of education, and the techniques of directing learning have established themselves as fundamental in the preparation of teachers.

It has been said that "elementary-school teachers were *trained* but not educated, and that secondary-school teachers were *educated* but not trained." As the high school became less selective, high-school teachers were required to learn more and better techniques in order to cause learning to proceed more rapidly with the less homogeneous group. A realization of the need of both subject-matter and professional training has tended to bring about a closer relation between the teachers of the two divisions.

TRENDS IN FINANCING SECONDARY EDUCATION

The percentage of the total amount of school revenue raised by local districts is being reduced and the amount contributed by the state is being increased. The percentages are about 70 to 30 for the local and the state respectively. These changes are taking place partly because the cost of education is increasing and partly because the state wishes to equalize educational opportunities and costs.

The federal government is slowly beginning to assume a greater responsibility in the support of education. Appropriations through the George-Deen Act were far more than had been appropriated previously. Efforts toward securing federal aid are becoming more concerted until it appears it will be a reality in the future.

EDUCATION FOR NATIONAL DEFENSE

During the period of preparation for national defense, the general public is looking to the schools as the place to begin developing national unity and efficiency. The work of the secondary school is fourfold:

1. To teach fundamental principles of reading, writing, and arithmetic which are essential to vocational and civic efficiency.
2. To improve the health of youth.
3. To develop greater vocational efficiency.

4. To indoctrinate with the principles of the American way of life in order to develop national unity which is essential to the preservation of American democracy.

It has been demonstrated in the past that in times of war too many youth and adults are deficient in these respects. In former times, education has been neglected, as were all peacetime pursuits, during periods of national emergency; today the value of education is being realized and is considered an important factor in national defense. Youth are being encouraged to remain in school in order that the four aims just stated may be achieved.[1]

CONCLUSIONS

The high school has progressed from an institution conceived of as a selective preparatory school to an institution which should serve every citizen according to his needs and capacities. This shift in the concept of the high school resulted in many persons' viewing it as a terminal, rather than a preparatory, school. The functions of the high school have been broadened, and the period of secondary education extended both downward and upward so that it now functions both as a terminal and preparatory school. The extent to which it has been made to serve the masses and the extent to which it has included them brings the American high school closer to the type of institution visualized by the numerous leaders who helped establish it.

Recently, owing to the conflicts which seem to be centered between totalitarian states and the democracies, some educational leaders are advocating that the high school be used as an instrument for indoctrinating youth with the principles of democracy as stated as one of the aims of the schools part in national defense. Some of these principles are the maintenance of freedom of speech, freedom of the press, and government by the consent of the majority.

There is no virtue in the belief that the opinion of the masses, or collective opinion and judgment, is good merely because it represents the judgment of many rather than a few. Mass opinion is no better than the opinions of the individuals composing the mass. Millions of wrongs do not make a right. Therefore, democracy, meaning majority rule, can be practiced and can advance only as the individuals composing the masses are educated. The implication calls for universal secondary education if the United States is to preserve and maintain democracy. But to teach it by indoctrination will defeat its own purpose. Rather, if universal secondary education is achieved, and the school is made democratic in outlook, program, and in practice, democracy will be inevitable.

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[1] See the bibliography at the end of this chapter for publications concerning education and the national defense.

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